A CASE STUDY OF THE EIA FOR THE CAPE TOWN FILM STUDIO:

FACTORS THAT UNDERMINE OR UNDERPIN EIA EFFECTIVENESS

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DECLARATION

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GLOSSARY OF TERMS

DEA&DP	Department of Environmental Affairs and Development Planning
DEAT	Department of Environmental Affairs and Tourism
DWAF	Department of Water Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act No 73 of 1989
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMFs	Environmental Management Frameworks
I &AP	Interested and Affected Parties
NEMA	National Environmental Management Act No 107 of 1998
NGO	Non Governmental Organization
RoD	Record of decision
SEA	Strategic Environmental Assessment
WESSA	Wildlife and Environment Society of South Africa

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Abstract

Environmental Impact Assessment (EIA) is one of the environmental assessment tools designed to advance sustainable development (Bruntland, 1987). Despite EIA being in existence for almost four decades from its inception in 1970, questions of effectiveness have been raised and studies done by different scholars on EIA effectiveness in different countries in order to improve EIA practice. These scholars include the following: Androulidakis *et al* (2006), Baker *et al* (2003), Duthie (2001), Sandham and Pretorius (2008), Sadler (1996) and Wood (2003). The rationale for an effectiveness study is that there is a growing concern about the effectiveness and efficiency of EIA (Devuyst, n.d.) and to understand problems that hinder effectiveness of EIA and how it can be improved in order to achieve its goal.

In South Africa and in the Western Cape province, problems have been identified in a group study research (forming a component of this mini dissertation) by three Masters Students about the factors that hinder EIA effectiveness (**see Annexure 1**). These include among others, a lack of EIA at the level of planning in the such as Strategic Environmental Assessment (SEA), a lack of legal clarity, shortage of staff, economic pressure and political intervention, and inadequate monitoring. Another component of the group study is found in **Annexure 2.** This Annexure contains regulatory Acts, laws and regulations as required for effective EIA. These include the Environmental Conservation Act No 73 of 1989 and National Environmental Management Act No 109 of 1998 with their respective regulations as they govern and regulate the EIA practice. Information from both **Annexures 1 and 2** give contextual information that informs the individual case studies.

The Cape Town Film Studio project (which was called initially the Dream World Film Studio), the case study in this mini dissertation, was selected as a single case study due to various factors such as the public/private nature of the development, a R450 million investment, and the fact that the project is big, extending over 198 hectares.

This case study is based in South Africaand in particular in the Western Cape province. The case study was reviewed for the purpose of evaluating its EIA effectiveness in which all the EIA stages from project design to follow up were revisited and analysed against criteria for effectiveness. In analysing this case study, the evaluation framework adapted from the EIA effectiveness literature by the team of three Masters Students was used and is found in **Annexure 1.**

The Environmental Partnership is a consulting firm that was commissioned to undertake the EIA process and prepare an EIA report for environmental authorization. The EIA process lasted from September 2004 to April 2005. During the EIA process, the main and critical issue surrounding the Cape Town Film Studio EIA process was the conflict over one legal requirement – the consideration of an alternative site. Polarized views existed as to what constituted sustainable development as seen in preferences for different design layout alternatives – namely alternatives 2 and 5. The Wildlife and Environment Society of South Africa totally rejected the project after their preferred option, alternative 2, was discarded since it was said to be not financially viable. In the absence of alternative 2, alternative 5 which was a preferred alternative to the Environmental Assessment Practitioner (EAP) proved to be a better choice, achieving a superior balance of socio-economic benefits and conservation of wetlands than alternatives 3 and 4. During the decision making the authorization was given for the alternative 5, the preferred alternative by the EAP-consultant by the Department of Environmental Affairs and Development Planning (DEA&DP) on 24 June 2005.

After the environmental authorization was given by DEA&DP for alternative 5 the decision was appealed by WESSA and Cape Nature. The Member of Executive Committee/Provincial Minister, Tasmeen Essop, had to exercise her own discretion and during the appeal process; she granted a second authorization with some modifications to the first authorization on 04 April 2006. She protected a further portion of the wetlands and increased the financial offsets from R320 000 to R1.8 million for a wetlands conservation programme. After this second authorization, the implementation started early

in February this year. Accordingly, it meant that the EIA effectiveness study of the Cape Town Film Studio is limited to an early implementation stage. For example, only conditions attached to the RoD and the Environmental Management Plan applicable to an early implementation stage could be observed by field visits - such as the demarcation of wetlands during earthmoving works.

As for the findings of the study, they include differing interpretations of one legal requirement-alternatives consideration, between the competent authority and Wildlife and Environment Society of South Africa (WESSA); lack of actionable definition of sustainable development, and political interference that affected the EIA integrity of the case study.

Overall, despite some problems and shortcomings such as public participation in one community Mfuleni and choice of site by the adjudication board, the whole EIA process proved to be effective as evaluated using the evaluation framework. The effectiveness of the EIA is demonstrated by the following factors as required for EIA effectiveness: project design influenced/shaped the project; good scoping; good reporting; systematic analysis of impacts; considering public concerns in decision making; enhancing positive impacts; comprehensive assessment of impacts, e.g. social, economic and biophysical and compliance with RoD and EMP conditions

The conclusion about the effectiveness of the EIA of the Cape Town Film Studio is made and proposed improvements to the gaps and weaknesses as identified and revealed by this case study are supplied.

CHAPTER 1: INTRODUCTION TO THE RESEARCH

1.1 Scope

The study on the requirements for good Environmental Impact Assessment (EIA) practice was limited to the Western Cape province. The Western Cape is one of nine provinces in South Africa. It is found in the south-western tip of Africa where it occupies an area of 129, 370 km. The study greatly relied on the EIA effectiveness literature, Western province's environmental policy, national legislation, guidelines and case studies in the Western Cape in studying and analysing data. The study was conducted in seven months from February to August 2008.

The group of three Masters Students formulated aims and objectives on the requirements for good EIA practice. The joint aims and objectives of the group ensured a strong focus on the theoretical concepts and issues relevant to factors that undermine or underpin the effectiveness of EIA. The theoretical studies on requirements for good EIA were crucial in providing the theoretical context for the analysis of the EIA process of the Cape Town Film Studio, which is the case study considered in this individual mini dissertation.

1.2 Study aims and objectives

The overall group study aim is to understand the factors that enhance or detract from EIA effectiveness by:

- determining the strengths and weaknesses of EIA as a process to achieve its goals, and
- determining the most important factors underpinning and/or undermining the effectiveness of EIA in South Africa.

The objectives of the group study are as follows, to:

- document and evaluate institutional arrangements and practices of EIA in the Western Cape
- assess the performance of EIA stages in improving decision making,
- identify measures that can improve the way EIAs are conducted and achieving its outcomes.

The group research provided contextual information, which was crucial before the individual case studies were executed. The group work is titled '*EIA effectiveness and Legal and Institutional Arrangements for EIA in the Western Cape, South Africa*' found in two **Annexures 1 and 2** respectively.

Subsequent to the group work were the individual case studies, each with its own objectives that pertain to the nature of an individual selected case study, e.g. the sector of the case study. In this mini dissertation, the selected case study is the EIA for the Cape Town Film Studio. This case study is the development of infrastructure with some biodiversity issues. In reviewing and analysing the EIA for effectiveness, the following objectives were formulated:

- Review and study the quality of the EIA for each of the EIA stages from project design to implementation and follow-up, in the case of the Cape Town Film Studio, and
- Suggest recommendations to address gaps and weaknesses revealed in the case study in order to improve EIA effectiveness.

1.3 Justification of the project

Although there are tools such as laws, guidelines, and a number of methodologies to assist people in executing an EIA, the effectiveness of this tool to meet its goals remains a challenge. Effective EIA can be a useful instrument in contributing to sustainable development as it indentifies and minimizes negative impacts. The need for EIA within sustainable development is contained in the National Environmental Management Act (NEMA) which is a framework law providing overarching principles for sustainable development

that apply to all activities of the state and the private sector (Rossouw and Wiseman, 2004). EIA can be a useful instrument for promoting the necessary sustainable development provided it is applied effectively. EIA should ensure that intragenerational and intergenerational equity (Bruhn and Eklund, 2002) is achieved in the province. There are many criteria to consider while evaluating requirements for good EIA and its effectiveness, namely, the availability of sufficient information for decision making, operational procedures, time frames for the EIA process, the cost, and others. In South Africa, EIA has a long history and has generally appeared as a dynamic process although various issues have been under review for effective implementation and for strengthening the process towards attaining its goals. In the Western Cape, in particular, there is a need to continue to evaluate the way EIA has, or has not, been achieving its expected outcomes, and to provide theoretical and practical measures to improve its performance, which is the purpose of this work.

1.4 Proposed methodology

In carrying out the study, aspects or phases described in the following subsection constitute the methodology of this research.

1.4.1 Case study selection

A case study is a holistic inquiry that investigates a contemporary phenomenon within its natural setting (Harling, n.d.).

The point of departure and the important factor that informed the case study selection process was the researcher's interest in an EIA case study within the conservation sector or in conservation areas or any EIA in which issues of biodiversity would be crucial aspects. Two case studies were sought to provide a comparison of a good and weak EIA, for the purpose of comparison.

In addition, it is important to indicate that the search for two case studies in which biodiversity issues would be a major factor was a long process as well

as a time-consuming activity, which negatively affected the mini-dissertation time schedule, and efforts put in it. The case study search process involved numerous visits to the Department of Environmental Affairs and Development Planning and the following consulting firms:

- CCA Environmental;
- Ecosense;
- EnvironAfrica cc;
- Environmental Resources Management (ERM);
- Ninham Shand Consulting Services;
- SRK Consulting;
- Target Project &Construction Management Services, and
- The Environmental Partnership.

From ERM no case study within the conservation sector was found, while those available were centred on waste management and the housing sector. In Ninham Shand Consulting Services, a case study on a water project that proved to be satisfying the requirements was available, but another case study for comparison purposes was lacking. In CCA Environmental, one EIA case study on conservation areas could not be found on the shelves. From EnviroAfrica cc and Ecosense the Basic Assessments were found, but proved to be insufficient for academic studies.

From the competent authority (DEA&DP), an EIA case study in Cape Agulhas, which involved a project where biodiversity would be a major issue, was found but proved to be problematic due to logistical problems and distance. The Cape Town Film Studio EIA case study was also found in the DEA&DP, but proved to be a project of large-scale with no available projects of its scale for academic comparison studies.

The DEA&DP officials recommended the Cape Town Film Studio case as an appropriate case study for academic purposes, because it includes critical issues on biodiversity and conservation, and two environmental authorizations

- one from the DEA&DP and the other from the Minister after the appeal against the decision.

A case study can be performed as a single case or a collective case study depending on the type of case that is useful for the purpose of the research (Harling n.d.). Having mentioned that, the EAP (*The Environmental Partnership consultant*) who prepared the EIA report for this case study shared the same view as the author as well as the DEA&DP officials. The environmental practitioner (EAP) argued that despite it being a single case, the Cape Town Film Studio has so many crucial factors that are worthy of academic study and which apply more widely than the case itself. These factors, as outlined below, validated the selection and consideration of the Cape Town Film Studio as a single case study:

- Large public/private initiative in the development of 198 hectares with an investment of R450 million with funding assistance from Western Cape provincial government and the City of Cape Town together contributing R60 million over three years, with further funding from Amalgamated Banks of South Africa [ABSA], The Development Bank of South Africa and the Industrial Development Corporation;
- Controversy over the meaning of the legal requirement to consider alternatives, which is said to be at the 'the heart' of the EIA process (Steinemann, 2001: p. 4 citing Council on Environmental Quality, 1978; Hill, 2004: p. 143);
- Trade-offs between socio-economic benefits and ecological considerations, which is a common issue in South Africa and other developing countries;
- Project considered by government as a means of contributing to broader policy objectives of creating 8000 direct and indirect employment opportunities to surrounding sub-economic areas during operational;
- Controversial EIA process that went through an appeal where the Minister of Environment, Planning and Economic Development (Provincial

Minister), Tasneem Essop exercised her discretion in making a ruling on the disputed authorization, and

- Affected parties unhappy and wanting to appeal the decision again in the High Court.

However, after the selection of the Cape Town Film Studio case, the acquisition of the EIA documentation (Scoping Report, Environmental Impact Report, Environmental Management Plan, Record of Decision) proved to be difficult due to bureaucratic procedures involved in the process. These involved submitting online request application forms and payments before the document could be printed. In total, the whole process of searching and getting the case study documentation took two months and two weeks, from April to Mid June 2008. The delay in acquiring the case study proved to be the major limitation of this mini dissertation as it strongly affected the efforts supposed to be applied to this mini dissertation.

All the contacts made during the case study search to the consulting firms and the competent authority is mentioned in Table 1 with the list of interviewees and the consulting firms. During the visits to the consulting firms and DEA&DP relevant and beneficial information was acquired before the acquisition of the Cape Town Film Studio EIA documentation.

1.4.2 Stakeholder interviews and site visit

In order to collect information pertaining to the case study from different stakeholders involved during the EIA process, structured and unstructured types of interviews were conducted. Principal and junior environmental officers from the competent authority – the Department of Environmental Affairs and Development Planning (DEA&DP) in Western Cape were interviewed employing both structured and unstructured interviews. More than one interview was held with the environmental officers. In addition, a senior management staff member in the DEA&DP was also interviewed. The interviews assisted the researcher in acquiring information about the case

study and issues of effectiveness from the competent authority as the EIA regulatory agency.

Unstructured interviews were held with the Environmental Assessment Practitioner (EAP) who prepared the Cape Town Film Studio EIA report. The interviews held with the EAP gave the researcher all the relevant information regarding the case study on the EIA effectiveness issues of the case study from the EAP/consultant perspective. Interviews were held with the EAP as respondent more than once, on different dates and months (refer to Table 1 below) and

Interviews were also arranged with some of the key and registered interested and affected parties (I&APs), the Wildlife and Environment Society of South Africa (WESSA) and Cape Nature. Both structured and unstructured interviews were conducted. The structured interviews were adapted from international EIA questionnaires- the international effectiveness study which helped maintain the focus of the interview on critical issues concerning the case study from an effectiveness perspective (Sadler, 1996). The unstructured interviews allowed flexibility from the respondents explaining issues according to their attitude, perception, views and understanding of the Cape Town Film Studio EIA process.

Interviews were not confined to key and registered parties but were also conducted with ordinary citizens from different communities and a Non Governmental Organization. These are the adjacent and surrounding communities to the site, which are Khayelitsha, Mfuleni, Macassar, Eerste River and Women Community in Action. The information obtained from the ordinary citizens was crucial as it reflected the level of public participation done during the process as well as their response to the project.

Visits to the site of the Cape Town Film Studio were undertaken several times and helped the researcher to understand the situation on the ground and gain information on the procedures followed for public participation and to evaluate

adherence to the stipulated conditions in the EMP and the environmental authorization (Rod).

Site visits and interviews are identified as some of the sources of evidence for case study research (Yin, 1994) and were crucial in this study. Table, 1 below, lists the respondents, their contact details and the months in which they were interviewed.

Table 1: List of people interviewed and contacted for case study selection.

Name	Affiliation	Phone/Email	Month/Date
Carmen Du Toit	*The Environmental Partnership*	*021 4220999*	*June and July*
Christopher Dalgliesh	*SRK consulting*		*June*
Eldon Van Boom	*Department of Environmental Affairs and Development Planning (Assistant Director).*	*021 4832877*	*June*
Elize Jordaan	*Target Project &Construction Management Services*	*021 4810077*	*May and June*
Janet Bodenstein	*Environmental Evaluation Unit and City of Cape Town(Environmental Management Systems Review Coordinator)*	*021 4872133*	*May*
Jonathan Crowther	*CCA Environmental (Managing Director)*	*021 4611118/9*	*May*
Jos DuToit	*Martin and East Company for roads construction and pipes*	*082 6512559*	*June*
Karen Shippey	*Nin ham Shand (Consultant and Chairperson of IAIA in the Western Cape)*	*021 4812502*	*May*
Kirsten Day	*Environmental Resources Management (ERM), Technical Director*	*021 7029100*	*May*
Lieuwa Boonstra	*EnviroAfrica cc*	*021 8511616*	*June*
Luxolo Kula	*Department of Environmental Affairs and Development Planning (Principal Environmental Officer*	*021 4832896*	*May*
Marbe Harbest	*Department of Environmental Affairs and Development Planning (Environmental Officer)*	*021 4834117*	*April*
Ordinary citizens	*Community members of Khayelitsha, Macassar, Eerste River, and Mfuleni*	**Field visits**	*June and July*
Samantha Ralston	*Wildlife and Environment Society of South Africa (WESSA) during the EIA*	*Number below*	*May and June*

	process of the case study		
Samantha Ralston	*Cape Nature: Land Use Advice and Scientific services(current post)*	*021 8668071*	*May and June*
Terrence Smith	*Cape Town Film Studio Project manager*	*e.jordaan@targetprojects.co.za*	*June*
Zaidah Toefy	*Department of Environmental Affairs and Development Planning (Assistant Director)*	*021 4832700*	*April*
	Ecosense	*021 887 2654*	*April*

1.4.3 Development of evaluation framework and case study analysis

The group developed an evaluation framework that was used for the analysis of selected individual case studies in the Western Cape. This evaluation framework was formulated from the review of EIA effectiveness literature done by different authors who used different ways of evaluating EIA systems. These authors include Annandale (2001), Baker and McLelland (2003), Duthie (2001), Wood (2003), Sadler (1996), Androulidakis *et al* (2006), Sandham and Pretorius (2007),

Evaluation criteria are shorthand versions of principles for EIA and, carefully articulated, have considerable advantages in terms of brevity and clarity (Wood, 2003). The later is also the case to the evaluation criteria formulated **(see Annexure 1, Table 1, p. 13)**.

Fundamentally, the evaluation framework covers the main phases and critical effectiveness issues as ideally required for each EIA phase to be effective: project design, scoping, impact prediction, impact analysis, consideration of alternatives, public participation, specialist studies, reporting, environmental management plan, decision making, implementation and follow-up.

The process of analysis included review of the documentary evidence of the Cape Town Film Studio EIA: the Scoping Report, the Draft Environmental Impact Report (DEIR), the Environmental Impact Report (EIR), the Environmental Management Plan (EMP) and the Environmental Authorization

formally known as the Record of Decision (RoD). These reports were reviewed and evaluated using the evaluation framework criteria. The evaluation framework served as a benchmark for whether the process was effective, or not. For example, relevance of the issues raised during the scoping exercise and in respect of the nature of the receiving environment, the comments made by I&APs and the responses from the EAP.

Moreover, qualitative methods were used in the form of structured and unstructured interviews, as detailed under subsection 1.6.2. Qualitative research probes deeply into a situation, describing the full range of influences associated with the phenomenon (Harling, n.d.). In depth study, in analysing the case, was allowed. For example, qualitative interviews with I&APs helped the researcher to understand the situation on the ground and gain information on public procedures followed during the EIA process. Site visits were also a crucial component of the study and afforded the researcher an opportunity to note the level of compliance to the EMP and environmental authorization conditions.

1.5 Limitation and challenges of the research

It is noteworthy to mention that it was a great challenge to obtain the EIA report due to the lengthy bureaucratic procedures involved in accessing the report from the DEA&DP. The process of selecting the case study took about two months and two weeks from April to Mid June 2008 as explained under case study selection, subsection 1.6.2. Thus, the late acquisition of the EIA reports negatively affected the timetable as planned for this work.

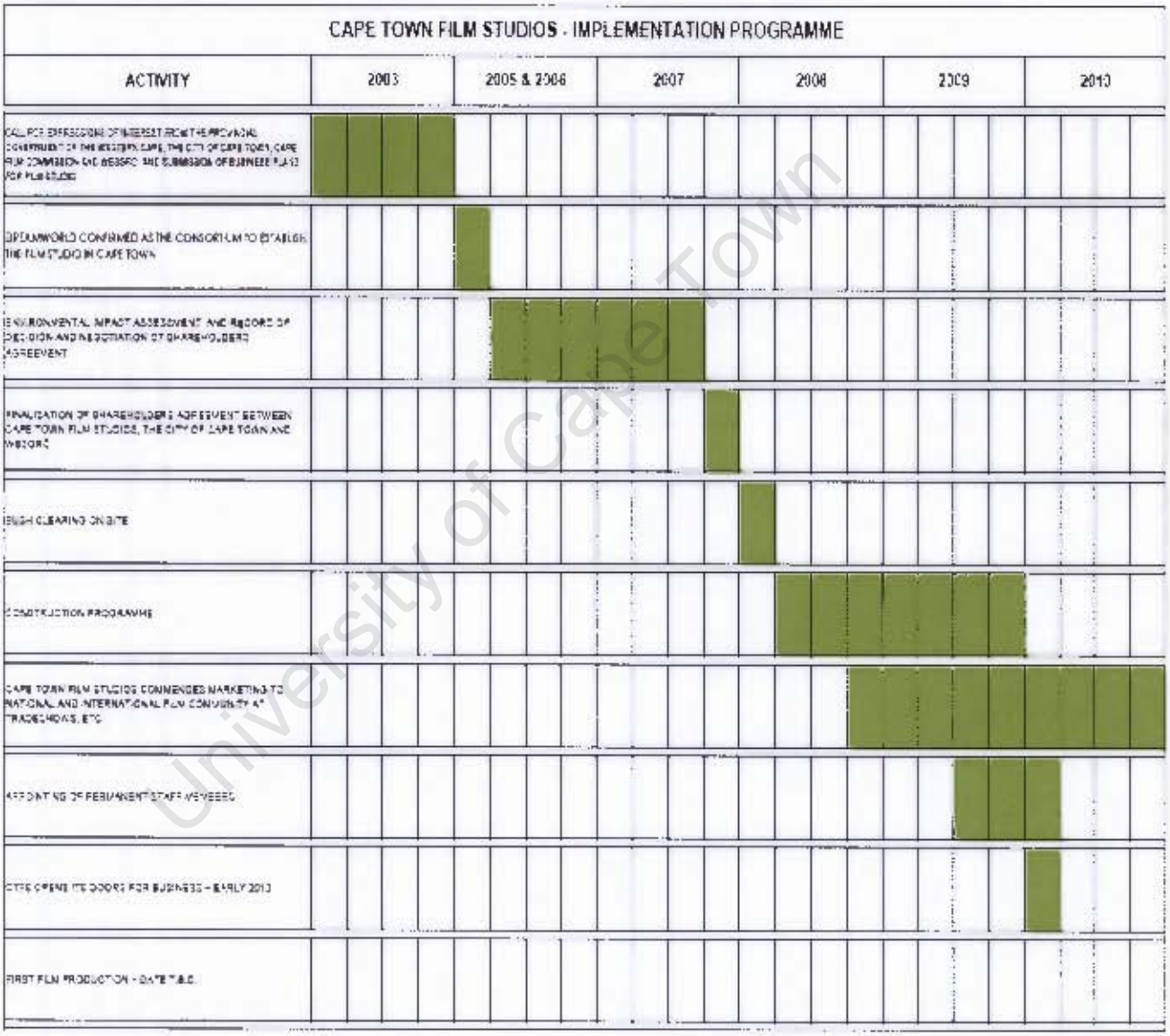
Other respondents who were actively involved have left the organisations they were representing during the EIA process and therefore information was acquired from their successors and this affected the quality of information, as it was their predecessors who were actively involved.

At the time of this research, the Cape Town Film Studio as analysed, was in its commencement stage where bush clearing, earthmoving works and road

construction were the main activities (refer to the implementation Table 2, overleaf). Therefore, issues relating the operational stage could not be observed. The implementation programme below illustrates.

Table 2: Implementation programme of the Cape Town Film Studio

(Source: Cape Town Film Studios 2008).



1.6 Structure of mini dissertation

This dissertation consists of four chapters, including this introductory chapter. The following chapter is a summary of the group work done by a team of three students titled '*EIA Effectiveness and Problems in South Africa*'. Information is summarized from **Annexure 1**, which provides the full detail. In Chapter 3, the

selected Cape Town Film Studio case study is reviewed, described and analysed in terms of its EIA performance against the requirements of good international EIA practice. Findings of the analysis and discussion in relation to the effectiveness of each EIA phase is covered from project design to follow-up. The effectiveness of each stage is evaluated using an evaluation framework formulated by the group of three Masters Students whereby each criterion/criteria relating to each EIA phase is/are outlined as a point of reference in enabling the evaluation of the EIA process in the light of best EIA practice (**see Annexure 1, Table 1, p. 13**). Chapter 4 is the last chapter comprising of proposed improvements for all the gaps and weaknesses revealed by the case study for improved future EIA practice, followed by a summary, lessons and conclusion.

This chapter has introduced the aim, objectives and methodology of both the group research and the individual components, and outlined the limitation and challenges of the research and the structure of this mini dissertation. Chapter 2, which follows, outlines and discusses the summarized version of the group work in **Annexure 1**.

CHAPTER 2: SUMMARY OF LEGAL AND INSTITUTIONAL ARRANGEMENTS, EIA EFFECTIVENESS STUDY AND PROBLEMS IN SOUTH AFRICA

This chapter is a summary of the group work of three Masters Students and contained in **Annexures 1 and 2**, which provide the detail. The outcome of this work led to the knowledge and understanding of the crucial issues pertaining to EIA, thereby providing a theoretical context from which conclusions on factors that undermine or underpin EIA effectiveness were drawn using the Cape Town Film Studio case study.

The group work focused on different issues that are fundamental for effective EIA and these issues are outlined below and discussed thereafter:

- Aims of EIA and its procedure;
- Defining EIA effectiveness;
- Rationale in evaluating EIA effectiveness;
- EIA problems in South Africa and at each EIA stage;
- EIA strengths in South Africa;
- Institutional arrangement for EIA in the Western Cape, and
- Criteria for evaluating the performance EIA of the Cape Town Film Studio.

2.1 EIA aims and procedure

EIA is a planning and management tool for sustainable development that aims to provide decision makers with information on the likely consequences of proposals (Sandham and Du Pisani, 2006). EIA contributes to the integration of projects into an environmental and social setting, through better planning and siting - thereby promoting sustainable development. EIA leads to development control by providing information on which a decision taker relies

for the issuing of an authorization before a development is implemented. These issues include pollution control, the use of resources and quality of life considerations. The EIA process fine-tunes a proposal to a particular environment, to avoid the worst results of development (Morgan, 1998).

The EIA procedure is structured to collect useful information on impacts. The stages of EIA procedure include screening, scoping, impact assessment, impact evaluation, mitigation, reporting and EIA report review, decision making and post decision implementation and control. Most of these stages involve robust public participation.

2.2 EIA effectiveness literature and rationale in evaluating effectiveness

The group study analysed the factors that are necessary for effective EIA. The rationale for evaluating the effectiveness was assessed. The rationale for evaluating the concept of effectiveness is that there is a growing concern about the effectiveness and efficiency of EIA at the technical and administrative levels about its role in the broader processes of planning and undertaking development (Devuyst, n.d.).

According to Sadler (1996: p, 37), effectiveness means '*whether something works well as intended and meets the purpose(s) for which it was designed*'. Effective EIA alters the nature of decisions or of the actions implemented to reduce their environmental costs and render them more sustainable (Wood, 2003). Therefore the study of effectiveness of EIA laid a foundation for all factors required in order for EIA to be effective. Also most importantly it gave direction for assessing the EIA performance of the Cape Town Film Studio case study in terms of its own effectiveness.

2.3 EIA problems in South Africa and at each EIA stage

One of the crucial components of the collaborative research was exploring EIA problems in South Africa. Findings of EIA problems in South Africa provided a starting point and a benchmark against which the findings of the Cape Town Film Studio case study were evaluated for its effectiveness. The study of EIA problems in South Africa acted as hypothesis, for example, it was found that the Cape Town Film Studio case study substantiated about 60 % of the EIA problems identified in the group stage from literature in South Africa as outlined below:

- Lack of legal clarity;
- Economic pressure and political intervention;
- Shortage of EIA staff and capacity in different provinces and mainly in the Western Cape;
- No detailed guidelines for weighting social, economic and environmental issues;
- No clarity on what constitutes acceptable losses of biodiversity and disturbances to ecosystems;
- Inadequate monitoring;
- Lack of EIA at the level of planning;
- Shortage of funds and capacity affect the full participation of NGOs and provincial conservation authorities;
- Corruption;
- Inadequate biodiversity assessment;
- Limited time and budgets;
- Poor EIA review;
- Institutional fragmentation, and
- Lack of detail EIA guidelines for weighting social, economic and biophysical impacts for decision making.

2.4 Legal and institutional arrangements for EIA in the Western Cape, South Africa

The Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape administers the EIA system. The Constitution is the basis of laws and dedicated Acts relating to the environment. In its second chapter known as the Bill of Rights, Section 24, it provides for environmental rights for all citizens. It states that '*everyone has the right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations*' (Republic of South Africa, 1996: section 24). The National Environmental Management (NEMA) Act no 107 of 1998 and the Environmental Conservation Act (ECA) No 73 of 1989 are among the environmental acts entirely dedicated to the environment that help translate the constitutional requirements to achieve the right to an environment that is not harmful to health or well-being and development that is sustainable for future generations.

The case study of this mini dissertation, Cape Town Film Studio, was undertaken in 2004/2005 in terms of the Environment Conservation Act (ECA) No 73 of 1989 and its regulations (sections 21, 22 and 26), which was effective from 1997 to 2006. The ECA EIA regulations were replaced by the EIA Regulations passed in terms of Chapter 5 of the National Environmental Management Act, 1998, as amended (NEMA). The repeal of the ECA EIA Regulations and its replacement with the NEMA EIA Regulations has been effective from 1 July 2006. NEMA brought improved EIA performance as administered under ECA such as deadlines of application for Basic assessment and full EIA.

In the Western Cape, the Directorate responsible for EIAs is Integrated Environmental Management (Region A and Region B). Each region is further subdivided into smaller regions. Region A consists of the following regions: George; Boland; Eden and the Central Karoo; the Breede River/Winelands; the City of Cape Town; Tygerberg and Oostenberg. Region B consists of the Overberg, the City of Cape Town; Helderberg; the South Peninsula Regions West Coast, and Blaauwberg. The Cape Town Film Studio falls under Region A 1 under Boland sub region.

In terms of the personnel structure, at the head of departments is, Head of the Department (HOD), whose responsibilities include reviewing and ensuring Environmental Impact Reports (EIR), basic assessment report, and scoping meet all the requirements and conditions as stipulated in the NEMA regulations. In case the EIR does not contain all the necessary requirements, the HOD refers it back to junior staff, i.e., to an environmental officer. In brief, the HOD's role is quality assurance in the EIR and decision making. If reports such as EIA report, scoping and basic assessment are judged satisfactory as having been reviewed by the environmental officers, the HOD can sign it within 30 days and giving the environmental authorization.

Below the HOD is the deputy director, and below the deputy director is the assistant director. Their duties relate to quality assurance through scrutinizing the duties of the environmental officers. At the lower rank are principal and junior environmental officers who actively interact with the EIA applicants, consultants and other stakeholders. Thus, the environmental officers act as an interface between the stakeholders and the decision taking authority. All the EIA applications and other related documents are received by environmental officers, which include basic assessment reports, scoping reports, EIA reports, exemption requests and appeals against decisions (**see Annexure 2 for details**).

2.5 Evaluation criteria for effective EIA

The group study research came up with evaluation criteria (**see Annexure 1, Table 1, p. 13**) which enabled an evaluation of the effectiveness of the Cape Town Film Studio case study. The evaluation criteria were derived from the EIA literature pertaining to good practice in the international arena from different scholars who did research on EIA effectiveness.

These authors include Annandale (2001), (Wood, 2003), Androulidakis *et al* (2006), Sandham and Pretorius (2007), Baker *et al* (2003), Duthie (2001) and Sadler (1996). The authors came up with different ways of evaluating

effectiveness of EIA systems based on each EIA stage with indications of all the factors that need to be considered ideally, for each stage to be effective. The work by these authors on EIA effectiveness (**see Annexure 1**) to certain extent informed the formulation of an evaluation framework used for assessing the Cape Town Film Studio case study from the pre-feasibility stage to implementation and follow up. The evaluation framework as adapted from the literature review on EIA effectiveness helped indicate all the factors needing to be considered for each EIA phase to be effective including project design, scoping, identification of alternatives, impact assessment, impact evaluation, mitigation, decision making, and implementation and follow up.

Below are the evaluation framework aspects relating to each EIA phase - in order for each stage to be effective. These aspects accompany the overarching evaluation criteria formulated for evaluating each EIA stage. In brief these requirements support the overarching evaluation criteria used in operationalising the evaluation framework in Chapter 3 where the effectiveness of each EIA stage is discussed for the case study (**see Annexure 1, Table 1, p. 13**).

Project design

Project design is an early stage of the EIA process. For EIA to be effective at this stage it should be able to shape the project in order to mitigate the negative impacts and where possible redesign the project (**Annexure 1, Table 1, p. 13**).

Scoping

Scoping is an open and interactive process of determining the major issues and impacts that will be important in impact assessment and decision making on the proposal, and need to be addressed in an EIA. In order to be effective, a scoping exercise must address the following (**Annexure 1, Table 1, p. 13**):

- inform the public about the proposal;
- identify the main interested and affected parties and their concerns and values;

- define reasonable and practical alternatives to the proposal;
- focus on the important issues to be addressed by an EIA;
- define the boundaries for an EIA in time, space and subject matter;
- set requirements for the collection of baseline and other information;
- identify specialist studies, and
- timeframes.

Identification of alternatives

The consideration of alternatives to a proposal is one of the most important requirements of an EIA. According to Steinemann (2001: p. 4 citing Council on Environmental Quality, 1978) and Hill (2004: p. 143), the consideration of alternatives lies at the heart of EIA. Effective alternative consideration should include (**Annexure 1, Table 1, p. 13-16**):

- no-go option;
- design alternatives;
- technology alternatives;
- activity alternatives;
- location alternatives, either for the entire proposal or for components (e.g. the location of a dam and/or irrigation channels);
- process alternatives, and
- scheduling alternatives, and
- stakeholders involvement in identification of alternatives.

Impact assessment

The aim of impact assessment is to assess all the impacts and to identify mitigation measures for significant negative impacts identified during the scoping exercise. For this stage to be effective it should take into account the following (**Annexure 1, Table 1, p. 13**):

- the type of methodology used for impact assessment
- comprehensive impacts e.g. consideration of social, economic and biophysical impacts

- cumulative impacts considered
- significance of impacts (local, regional and global);
- nature (positive, negative, direct, indirect, cumulative);
- magnitude (severe, moderate, low);
- extent/location (area/volume covered, distribution);
- duration (short term, long term, intermittent, continuous);
- likelihood (probability, uncertainty or confidence in the prediction);
- identification of measures to lessen/alleviate negative impacts and enhance benefits, and
- circulation of Draft Environmental Impact Report (EIR) for comment.

Impact evaluation

Once the impacts have been analysed, they are evaluated to determine their significance. Following impact identification and prediction, impact evaluation is the formal stage at which a 'test of significance' is made. To be effective, impact evaluation should cover the following (**Annexure 1, Table 1, p. 13**):

- evaluation methodology;
- systematic evaluation, and
- I&AP involvement during impact evaluation.

Mitigation

The elements of mitigation are organized into a hierarchy of actions. In order for mitigation measures to be effective, these mitigation types should be applied accordingly (**Annexure 1, Table 1, p. 13**):

- avoid adverse impacts as far as possible by the use of preventative measures;
- minimise or reduce adverse impacts to 'as low as practicable' levels;
- remedy or compensate for adverse residual impacts, which are unavoidable and cannot be reduced further;
- measure impact significance after mitigation, and
- enhance positive impacts, impact significance after mitigation/residual impacts.

Reporting and decision making

For EIA to be effective at this stage, the EIA report should include some or all of the following headings and items before decision making (**Annexure 1, Table 1, p. 13**):

- reporting;
- peer review;
- consideration of public concerns;
- executive or non-technical summary (which may be used as a public communication document);
- statement of the need for, and objectives of, the proposal;
- attaching conditions to approval such as the EMP that identifies how proposed mitigation and monitoring measures will be translated into specific actions as part of impact management;
- comparison of the proposal and the alternatives to it (including the no action alternative);
- consideration of the main impacts (positive and adverse) that are identified as likely to result from the proposal, their predicted characteristics (e.g., magnitude, occurrence, timing, significance, etc.) proposed mitigation measures, the residual effects and any uncertainties and limitations of data and analysis, and
- objectivity in decision making.

Implementation and follow up

Implementation marks an EIA stage where the project is implemented on the ground. In order for the follow-up stage to be effective, the following issues must be addressed (**Annexure 1, Table 1, p. 13**):

- compliance and enforcement of all the conditions attached to both the EMP and the RoD by the competent authority;

- regular visits to the site by environmental officer during the implementation phase to ensure the terms and conditions of approval are adhered to by persons such as Environmental Officers;
- the proponent (often through sub-contractors) should normally carry out the scheduled activities, such as site clearance and preparation, construction and environmental management;
- monitoring in order to check compliance with agreed conditions and standards.

Theoretical aspects covered in this chapter include problems in South Africa, how the institutions are arranged within the EIA system, defining effectiveness and the rationale for effectiveness study, as well as aspects of the evaluation framework pertaining to each EIA phase. These aspects provide for a context through which the case study analysis (which is discussed in the following chapter) can be evaluated against the requirements for effective EIA.

CHAPTER 3: EFFECTIVENESS OF THE EIA FOR THE CAPE TOWN FILM STUDIO EIA CASE STUDY

This chapter initially presents the background, site location and project proposal of the EIA of the Cape Town Film Studio case study. It then outlines and discusses the whole EIA process for each stage of the Cape Town Film Studio. The evaluation framework criterion/criteria related to each EIA stage is/are outlined, followed by the findings on each stage, which are then discussed in the light of the requirements for effective EIA.

3.1 Background

The Western Cape enjoys a considerable amount of activity related to the film industry, with the city of Cape Town being particularly popular. This is largely due to the aesthetically pleasing nature of Cape Town and its surroundings, which provide a wide variety of suitable locations for local and international filmmaking.

The Cape Town Film Studio project was selected as a single case study after consultation with different environmental consulting firms such as ERM, SRK Consulting and Ecosense and the Department of Environmental Affairs and Development Planning (DEA&DP). The consultant and DEA&DP recommended the Cape Town Studio because of various factors that apply more widely than the case itself - such as controversy over the conservation of wetlands and socio-economic benefits as well as it comprising a significant project totalling R450 million in investments.

Being a big project from a provincial and local government perspective, it is considered as a means of contributing to broader government objectives of creating employment opportunities in proximity to sub-economic areas where there is an available workforce. The intention is also to use this opportunity to allow the filming industry to become more representative.

The Environmental Impact Assessment (EIA) for Cape Town Film Studios was initiated in 2004 as per the requirements of the EIA regulations derived from the Environment Conservation Act (73 of 1989). *The Environmental Partnership* was commissioned to prepare the EIA for authorization. The authorization was given by the DEA&DP for the project to be implemented, but the decision was appealed by Cape Nature and WESSA.

The Wildlife and Environment Society of South Africa (WESSA) and Cape Nature - who preferred alternative 2 - lodged an appeal after alternative 5 was chosen for the decision. However the Minister, after exercising her discretion, gave the environmental authorization on 4 April 2006 (ref: E12/2/1-595-FARM 653, OA), which authorises construction of the proposed development subject to certain conditions (Environmental partnership [ENP], Scoping Report, 2005c). WESSA, despite some positive changes to the amended environmental authorization, was not satisfied and wanted to appeal against the decision again in the high court, but failed due to financial reasons required during the appeal process as they could not afford.

Lack of legal clarity on alternatives consideration was, *inter alia,* a reason behind the controversy as the development site has wetlands and certain NGO argued that the process did not consider site alternatives. Nevertheless, the competent authority indicated that alternatives had in fact been considered. These issues will be further discussed in the section on EIA stages.

Despite the controversy of the project, the EIA process of the Cape Town Film Studio proved to have made significant contributions to project design, mitigation, implementation and follow up (though only studied up to an early stage of implementation). These aspects showed some elements of good EIA procedure. For example, a new design layout was formulated after scoping in order to minimize negative impacts. There was compliance on the site as observed during field visits by the researcher. For example, demarcation of the site was observed, and the environmental officer visited twice a week for environmental education and guidance.

The gaps and weaknesses as identified in the Cape Town Film Studio EIA and the proposed improvements to these gaps and weakness are made in order to avoid similar occurrences in future.

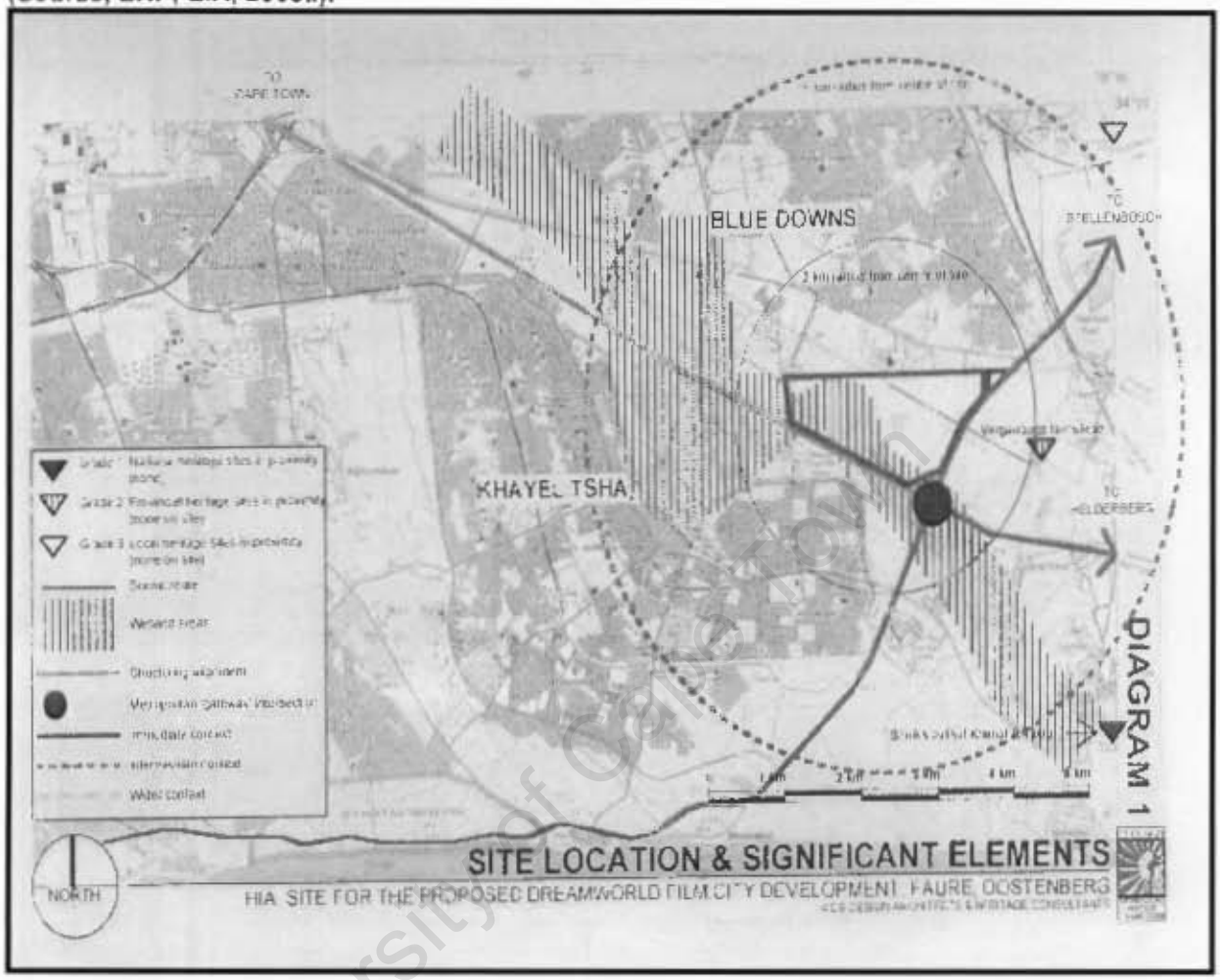
It is noteworthy to mention to the reader, there is an overlap between EIA stages. Aspects of one stage can be found in a different stage, e.g. mitigations aspects may be found in project design etc. This is due to the interlinkage and interdependence involved in the analysis and discussion of the case study.

3.2 Location of site

The Cape Town Film Studio site is approximately 198 hectares (ha) in extent; it is within the jurisdiction of the Oostenberg Administration of the City of Cape Town and lies north of the N2 Freeway and west of the R310 Main Road to Stellenbosch, directly adjacent to the N2 off-ramp to the R10. The site is surrounded by sub-economic areas such as Khayelitsha to the south, Croydon and Macassar to the southeast and Eerste River and Mfuleni to the north and northeast. The Map 1 below illustrates the geography of the area:

Map 1: Location of Cape Town Film Studio

(Source, ENP, EIR, 2005a).



3.3 Project proposal

(a) Proposed activities

The development proposal is for a film 'city' that is able to provide a one-stop service for the filming industry and therefore includes associated fringe activities. As a result, a housing and resort component is proposed as part of the development scheme.

In order to realise the one-stop service centre for the filming industry the following development were proposed.

(b) Activities associated with studios

- Indoor film making in studio buildings;

- Outdoor film making;
- Construction of film sets outdoors;
- Post-production work in office environments;
- Support activities such as film processing;
- Performances by artists and exhibitions;
- Education through the activities of the film school;
- Construction of movie sets in workshop buildings;
- Rental and warehousing equipment in warehouse facilities, and
- Catering through a centralised catering facility.

(c) Residential activities

- High income housing allowing for a mix of opportunities including low to medium density options;
- Crèche facilities;
- Public transport facilities associated with the housing component;
- Parking for trailer homes for movie stars;
- Hotels;
- Boarding houses and
- Professional suites.

(d) Other activities

- Commercial activities comprising retail and support;
- Gymnasium;
- Space for safe keeping of animals;
- Petrol service station, and
- Mixed-use zone providing retail/cinema and office opportunities (ENP, Scoping report 2005b).

It is important to indicate at the onset, what the researcher wanted to achieve in the study as far as objectives, was to keep directing the study process on the right course with strong focus.

3.4 Project design

One of the crucial aspects of EIA is the consideration of the state of the environment i.e., the conditions of the existing environment before a development occurs, and is called the baseline information. The status of the environment should inform appropriate design of the layout, and how negative impacts can be minimized and the positive ones maximized.

Data on the existing environment should be collected early enough to use as input into the design process (Wood, 2003). The proposed development in its basic form should be defined even before the EIA. The balance of the process then prevents and ameliorates the negative proposal effects through analyses of alternatives and determines the acceptability of the proposal (Lawrence, 2001).

The evaluation criterion for project design is to what extent has the EIA contributed to the project design (redesign)?

3.4.1. Findings

WESSA presented a paper in 2006 national annual conference of International Association of Impact Assessment about the EIA process of the Cape Town Film Studio and the quote below indicates the issues related to alternative consideration during the EIA process:

> *'In the case of Cape Town Film Studio alternative sites were not an option for consideration as the tender was awarded to that particular site'* (Wildlife and Environment Society of South Africa (WESSA, 2005)

The lack of site alternative was the major reason behind the concerns of WESSA who argued that the site is ecologically sensitive with Red Data species and other related sensitivity issues (Ralston, 2008, pers.com). The

consultants on this issue argued that it was beyond EIA resolution and needed some other external solution (Du Toit, 2008, pers.com).

The interview held with the competent authority official in terms of baseline information and site alternative considerations regarded the issue of who should give input during project design before EIA and what type of alternatives should be considered. The response was as follows. '*In reality consideration of site alternatives is not possible; additionally the law states alternatives should be considered not necessarily site alternatives*' (Nkula, 2008, pers.com).

3.4.2. Discussion in relation to EIA effectiveness of project design

The baseline information according to the Wildlife and Environment Society of South Africa (WESSA) on the biophysical environment seems to have not been afforded adequate attention at an earlier stage and this has been the reason of concern by environmental Non Governmental Organizations (NGOs). '*WESSA Western Cape believes that failure to adequately consider the receiving environment during the tender phase resulted in the incorrect site being selected'* (WESSA, 2005).

Baseline information is not confined to the biophysical environment only, but should be inclusive of social and economic conditions of the project area. Socio-economic baseline data certainly supported the need for development and social upliftment of the sub-economic areas surrounding the site, including communities such as Khayelitsha, Mfuleni, Eerste River, Maccassar and others. Nevertheless, the fact that the receiving environment has high conservation status with the possibility of various Red Data species found in the project area; renosterveld species which are endemic in the area; and different types of wetlands harbouring different critically endangered species is crucial.

The interview held with the Western Cape Chairperson of the International Association of Impact Assessment (IAIA) during the case study search stressed that information gained from an EIA should inform project conceptualization in order to effectively mitigate negative impacts. Shippey, (2008, pers.com) indicated that once all engineering design has been finalised it is hard to change a proposal.

The EIA process of this project did not involve the prior gathering of information on the area to inform the choice of site. In fact, the site was chosen in an environmentally uninformed manner. It was chosen by the adjudication bidding committee (Department of Economic Development and Tourism, City of Cape Town, the Cape Film Commission and Wesgro) for its large size. The choice of site by the adjudication bidding committee indicates political and economic intervention in EIA in the Western Cape and this corroborates the findings of the group study on EIA effectiveness and problems in South Africa (**see Annexure 1**). Many environmental conflicts result from bad governance as manifested by corruption, conflicting legislation, lack of empowerment of community leaders, lack of transparency, accountability, or responsibility, and lack of public participation (Kakonge, 1998).

The scientific findings of the specialists led them to believe that the area was not suitable for development from an ecological point of view. Nevertheless, sustainable development does not dismiss the need for socio-economic upliftment of the society which can benefit from natural resources. Therefore, the difficulty is where to draw the sustainability line between socio-economic needs and the conservation of natural resources.

During the project design, the design team initially formulated four design layout alternatives. Nevertheless, after the layout alternatives were sent for comments to the interested and affected parties another new alternative was identified in the scoping phase.

The evaluation of EIA effectiveness is intended to determine how much difference EIA is making (Wood *et al.*, 2006) yet late consideration of EIA is one of the major EIA critiques. EIAs tend to be triggered late in the project cycle after many important decisions have been made (Thabrew *et al.*, 2008; Devlin and Yap, 2008). Certainly, EIA has made a difference in this case through the formulation of another layout which was subject to further redesign in order to minimize the negative impacts. This difference was also acknowledged by the Cape Town Film Studio project manager (Smith, 2008 email). However, in spite of EIA making a difference, according to WESSA it was delayed and did not inform the choice of the site and this questions the credibility of the EIA and its integrity (Ralston, 2008, pers.com). Good EIA practice requires that environmental factors are considered during project conceptualisation whereas in this case study this was lacking as the EIA started after the site for development was chosen by the adjudication bidding board. So the question regarding the effectiveness question of this stage is, does the project design stage satisfy the process as good practice?

How the project redesign came about, was mainly through the involvement of governmental institutions, Non Governmental Organizations and parastatals such as Cape Nature, the City of Cape Town, Department of Water Affairs and the Wildlife and Environmental Society of South Africa. NGOs are advocates of environmental policies and provide information related to environmental issues (Harasina *et al.,* 2004). The involvement of the above-mentioned key stakeholders has been fundamental in shaping and influencing the redesign of the layout (alternative 5). In addition, there was a consensus reached between the proponent and Cape Nature about the trade-offs, whereby a certain portion of the area would be left intact. Undoubtedly, this is a clear contribution of EIA in spite of its belated involvement. Significant input to redesigning of the project is one demonstration of effectiveness of EIA (Sadler, 1995) therefore the EIA's influence on the redesign of the Cape Town Film Studio project and the project design stage proved to be effective in this way, albeit limited to the design layout on a particular site.

Having looked at the effect of EIA in project design the following sections consider the issues that were raised in such a large development project of 198 hectares.

3.5 Scoping

The objective of scoping is to identify the significant issues associated with a proposed action and thus to determine the issues to be addressed in the EIA report. It is intended to focus the EIA on the most important issues, identifying alternatives, ensuring public participation, and setting time lines for an efficient process and eliminating irrelevant impacts, whilst ensuring that indirect and secondary effects are not overlooked. It involves identifying the issues and concerns that should form the focus of the study effort and deciding on the appropriate level of study for EIA (Wood, 2003).

Having identified what scoping entails in order to operationalise the evaluation framework for the scoping exercise, the scoping criterion is outlined below and the effectiveness discussion after the findings:

Criterion, to what extent did scoping achieve its purpose?

3.5.1 Findings

The scoping exercise was performed between September and November 2004 after the scoping application was approved by the Department of Environmental Affairs and Development Planning (DEA&DP). The EIA of the Cape Town Film Studio was undertaken in terms of the Environment Conservation Act (ECA) No 73 of 1989 and its regulations (sections 21, 22 and 26) which were effective from 1997 to 2006. During the scoping phase different issues were raised by different parties - some of which led to the recommendation of specialist studies and others not. These issues are described below.

(a) Freshwater ecology

The City of Cape Town, Cape Nature, DWAF and Wildlife Environment of South Africa (WESSA) have recognized that wetlands are conservation-worthy and therefore motivate that they should be responsibly managed. Various wetland types were found within the study area and were rated in terms of their biodiversity significance. Should development occur that did not uphold the original hydrological functioning of the area, or if the wetland areas were utilized for development, permanent destruction of threatened and rare wetland types would occur.

It was recommended that a freshwater specialist examines and evaluates the alternative layouts proposed and where appropriate, mitigation measures would be provided during the EIA.

(b) Botanical issues

The specialist botanist identified two specific areas of significance from a local and regional perspective. Both areas are seasonal wetlands. The maintenance of the current hydrological regime that feeds the area is essential if these areas are to be ecologically sustainable with any proposed development. Depending on which alternative is selected, and if the current geohydrological function is disturbed, the impacts on these areas are rated highly significant locally and regionally should they be destroyed. It was then recommended that a botanical study be commissioned to examine and evaluate the proposed alternatives. Also it was proposed that along with the evaluation, recommendations should be made on the impact of each alternative on the botanically significant areas. Where appropriate, recommendations or mitigation measures would be provided during the EIA.

(c) Fauna

WESSA raised a concern about the threat to the Cape Caco which is an endangered frog species found in the area. The threat was identified as likely, should the development occur on large parts of the wetland areas. Therefore this triggered the need for avifaunal and herpetofaunal specialists to be commissioned for the EIA. The specialists had to examine the proposed

alternatives in the light of information acquired and determine the impact of the alternatives on the Cape Caco and other fauna - making recommendations and suggesting mitigation measures. This information was recommended to form part of EIA.

(d) Groundwater flow

Distinct groundwater flows associated with the wetland areas and specific vegetation types and patterns on the site were identified. A possible disturbance of this flow was identified as potentially leading to the extinction of rare and endangered fauna with a high conservation value. A specialist on geohydrology was recommended to determine the impact of alternative layouts on the geohydrological functioning of the site. An evaluation to determine how the alternatives impact on geohydrology was also proposed and recommended to form part of the EIA.

(e) Traffic and Access

With the introduction of this development to this area, a possible impact of increased traffic to the area was identified. However, because of the location of the site being on the outskirts of the city, this was not seen as a major concern. Depending on the size of the development, adequate access for the development should be provided. It was recommended during scoping that a Traffic Impact Assessment (TIA) assess the alternative development layouts to ensure that access is adequate.

With regard to public transport, a possible impact is that inadequate public transport from disadvantaged surrounding areas, to and from the development, will prevent these sub-economic areas from benefiting from the development. It was recommended that additional public transport modes, routes or improvements on existing systems be made. This had to be included in the TIA and form part of the EIA.

(f) Visual impact

Visual impact was raised as a concern with respect to how the alternative layouts and architectural design would enhance or blend in with other

elements already in the landscape. It was raised that the development design and layout is not aesthetically pleasing from the N2 freeway or from the R310 road. The R310 was identified during scoping as a scenic route as it provides access to the wine farms in the area and to Stellenbosch.

How the internal components of the alternative layouts complement and flow from a visual perspective is also a consideration. Colour, textures, architectural design, landscape design and layout of the various components need to ensure that the impact on the area is positive. The recommendation was that a visual impact assessment (VIA) be undertaken in the assessment phase of EIA with the need to take cognizance of the above comments and provide recommendations to ensure a positive visual impact.

(g) Noise

One of the key issues identified during scoping was noise impact. In this case, it is noise from the N2 freeway and from the R310 arterial road that would impact on the development in the sense that it could potentially affect the outdoor film shoots or impact on the residential component of the proposed development.

Also a flight path of aircraft from Cape Town International Airport crosses the site. It was then recommended during the assessment phase that the factor of aircraft path is carefully managed where possible when film shooting occurs. For example, outdoor shoots will need to be scheduled in a period when no aircraft that particular flight path, while indoor film shoots would be more manageable as the structure could be made sound proof.

(h) Cultural considerations

The study area forms the remainder of the historic farm Vergenoeg, which dates back to 1696. The closest place of permanent residents appears to be the Vergenoeg farmstead and the homestead dating from 1773. The site has in the past been used for cattle grazing but no permanent structures have ever been constructed on the site.

The close proximity of the Kuils and Eerste Rivers may have attracted transient herders in prehistoric and pre-colonial times, suggesting that scattered artefacts of significance may be found. However, investigations have suggested that the area was bypassed by early European settlers, presumably because of extensive dune lands which made the topography impassable for wagons and draught animals. The flat topography near the site resulted in seasonal flooding, which made for good livestock grazing but not for habitation.

In terms of Section 38 of the South African Heritage Resources Act, because the study area is larger than three hectares, a Heritage Impact Assessment (HIR) is required in order to inform the proposed development. An initial HIA, which is the first step in the process, has been undertaken. The public participation associated with the initial HIA was undertaken in conjunction with the public participation of the EIA.

(i) Planning Framework

The study area is currently zoned as Agricultural Zone 1 and appropriate rezoning was necessary.

NM and associates, who are providing the urban planning function for the project, will be applied to the authorities for the site to be declared, a 'special zone'. This will allow for a mixed used development along with identified conservation areas.

(j) Wetland habitats

It was identified that the project area falls within what was once an extensive area of seasonally inundated floodplain wetlands surrounded by a mosaic of seasonal dune-slack wetlands and shallowly inundated renosterveld pans on the transitional area between Aeolian sands and clays overlaying shales in the east (ENP, Scoping Report, 2005c). In addition, it falls within a main ecological corridor connecting Macassar Dune (a core flora conservation area) with Driftsands Nature Reserve.

(k) Socio-economic impacts

Job creation, skills development and other businesses opportunities for the surrounding sub economic surrounding areas were raised as important issues (ENP, Scoping Report, 2005c).

3.5.2 Discussion in relation to EIA effectiveness of scoping phase

Interested and affected parties were indentified during scoping, which included Cape Nature, WESSA, DWAF, City of Cape Town and ordinary members of the public from the adjacent communities such as Khayelitsha, Mfuleni, Maccasar. Also different organizations such as Eerste River community development, African National Congress (ANC), Community Women Action were interested in development - mainly for job opportunities. Financial institutions such as Amalgamated Banks of South Africa (ABSA) showed an in interest backing the project with financial support. ABSA supported the development especially for its development potential in uplifting the socio-economic status of the poor majority in the surrounding areas.

According to ABSA Executive Director Robert Emslie '*the film industry has great potential to contribute to economic growth in South Africa and it is for this reason that ABSA is proud to have contributed towards the financing of the Cape Town Film Studios. We do not only see this as a contribution to the film industry, but also to the economy of South Africa and more specifically to the Western Cape*' ('Wesgro announces Cape Town Film Studio...,'2008).

Councillor Simon Grindrod, Executive Mayoral Committee Member: Economic, Social Development and Tourism, said that the Dreamworld project fits in perfectly with the City's identification of film as a high growth sector. Cape Town Film Studios will be a valuable accelerator and catalyst for this growing industry ('Wesgro announces Cape Town Film Studio...,'2008). The then Premier of Western Cape, Ebrahim Rasool, supported the development for its potential benefits to the Western Cape Region and the country as a whole.

In contrast, WESSA was concerned about the loss of wetlands. Other similar concerns were raised by, *inter alia*, Department of Water Affairs and Forestry (DWAF) and Cape Nature concerning the loss of wetlands. The comments received from authorities, interested and affected parties as well as the balance of the professional team, led to the scope of the key and relevant issues as mentioned above. Scoping exercises are generally done well - not only in Western Cape, but also in South Africa as a whole (Wood, 2003). In this regard the effectiveness of the scoping study confirmed with the finding from the group study titled '*EIA effectiveness and problems in South Africa*' (**see Annexure 1**).

However, given that the site was chosen during the tendering process, scoping inputs in this manner were not possible. This is one of the major concerns where EIA is conducted too late and in some cases done as a mere formality. According to Biswak and Modak (1999, p 18) '*the main reason for ineffective EIA is lack of an open approach; EIA is used in support of a decision already made*'. The fact that the site was already chosen by the tendering board committee reflects a crucial question in this case study.

The identification of specialist studies for botany, fauna, geohydrology and wetlands manifest the significance of scoping. For instance, it was determined that the area has high conservation status. Other issues such as job creation and skills development were raised during scoping through public consultation, which was robust. This was commended also by the affected parties such as WESSA, especially in the early stages when the comments were received ([ENP], Scoping Report, 2005c). In addition, the case studies survey on 'Public Participation in Environmental Decision making in the new South Africa' carried out by the Environmental Evaluation Unit (EEU) at the University of Cape Town confirmed the adequacy of the public participation as indicated by the quotes below:

> *'All the respondents were very pleased with the level of engagement throughout the scoping and the EIA process and were happy to see*

that the communities had been actively and thoroughly involved (EEU, 2007: p. 61).

Despite public participation being generally good, it had its own shortcomings in a specific area i.e Mfuleni. In this area complaints were raised by interested parties about public participation meetings held. Copies of the Scoping and EIA reports were available in the local library but not used. According to the librarian, the copy placed in the public library was never loaned out to any of the community members. Despite the knowledge of it being available the librarian indicated it was due to the illiteracy of the majority of the community members, especially because the report was printed in English while the main local languages are Afrikaans and Xhosa. Illiteracy is widely blamed as an impediment for effective public participation - especially in developing countries - as the level of illiteracy can be very high. The fact that illiteracy was identified as a problem highlights the fact that illiteracy is one of the factors hindering effective public participation in EIA (**see Annexure 1**).

It was found that the consultants/EAP had complied with all public participation requirements in terms of ECA and its regulations. However, the political landscape affected the wide propagation of information to the community members. The reason was that representative structure members belong to different political organizations such as the African National Congress (ANC) and Democratic Alliance (DA), which having different development agendas and different views on the project. The interview with Community Women in Action being an interested party (a tourism development organisation in Eerste River), testified that a certain meeting of the project did not materialize due to political interference caused by DA members. The reason was that the members belonging to the DA were against the development and regarded the development as carried by their ANC counterpart – therefore it was a politically motivated decision.

The political organizational conflict resulted in other party members not showing up to the meeting and claiming that they would have to be consulted separately. This issue surprised the consultant as she thought she had invited

everyone through the media and other information dissemination techniques (Du Toit, 2008, pers.com).

Community Women in Action acknowledged being consulted during the scoping phase by the consultants, but complained they had not been subsequently consulted and were concerned about accessing the business opportunities. In order to understand this issue from the regulatory perspective the official was interviewed. The competent authority indicated that an opportunity for public consultation and comments follows on from the scoping phase to the draft EIR and it became clear that it was not the consultant's problem as the consultants had fulfilled the public participation requirements. In contrast, some areas where the political landscape is conducive to publica participation, such as Khayelitsha, public meetings were successfully held, sometimes above and beyond the requirements and the community members were aware of the project and looked forward to it with great anticipation.

The generated scenario of these findings is that EIA and public participation in particular thrive well in politically stable communities and not in politically unstable communities. The Khayelitsha and Mfuleni communities are exemplary of these two situations respectively.

One of the crucial issues in the EIA process is the consideration of alternatives, which has been very controversial in this project and is considered below.

3.6 Identification of alternatives

The consideration of alternatives is the key to creative, proactive, relevant assessment and proper decision making (Sadler, 1996).

Alternatives are defined in the Regulations as '*different means of meeting the general purpose and requirements of the activity*'. It is therefore necessary to provide a description of the need and desirability of the proposed activity and

any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity (DEA&DP, 2005).

Below are alternatives required by Department to Environmental Affairs and Tourism (DEAT, 2004), which concur with alternatives proposed by Sadler (1996) for good EIA practice:

- the property on which or location where it is proposed to undertake the activity;
- the type of activity to be undertaken;
- the design or layout of the activity;
- the technology to be used in the activity, and
- the operational aspects of the activity.

The consideration of alternatives has been described as the heart of the environmental impact statement in the (US Council on Environmental Quality-CEQ, 1978, Regulation 1502.14).

The evaluation criterion used to evaluate the performance of this stage is how were the alternatives identified and considered?

3.6.1 Findings

Design layout alternatives 2 to 4 were created for the proposed Cape Town Film Studio by the designer's team (ENP, EIR, 2005a). But alternative 5 came about as a result of the scoping phase. The no-go alternative no 1 also was considered. These alternatives are described below.

(a) Alternative 1

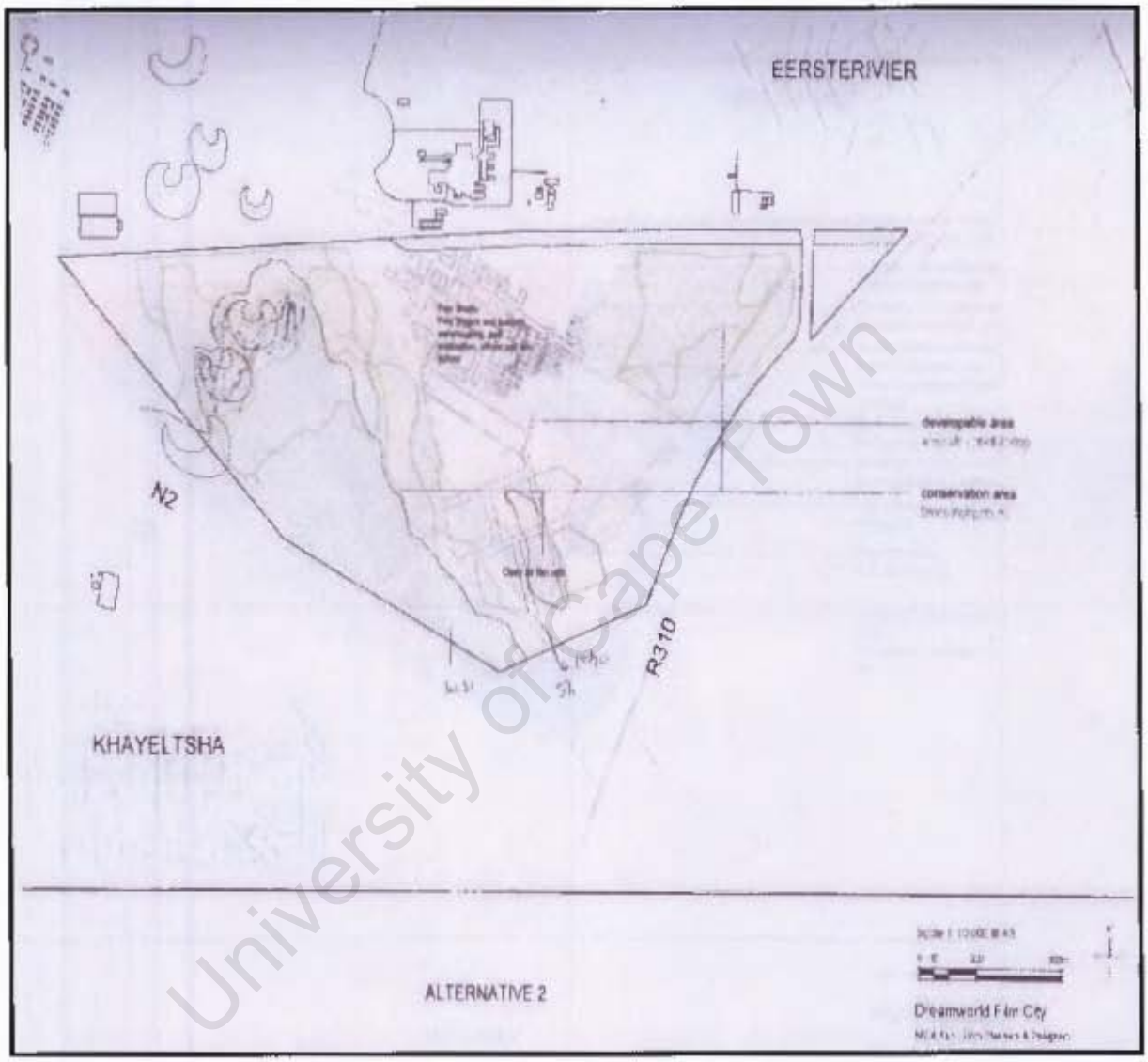
This alternative implies that existing rights could be exercised or that the site would remain in its present state. It is called the no-go option.

(b) Alternative 2-see Map 2 (overleaf below)

In this alternative, all conservation areas as identified by the botanical and freshwater specialists are protected and rehabilitated. According to this alternative limited development would occur where possible. Approximate developable area: 95.2 hectares and approximate conservation area and servitudes: 103.4 hectares.

Map 2: Design alternative 2

(Source, ENP, EIR, 2005a).



(c) Alternative 3 see Map 3 (overleaf below)

Under this alternative, some of the impacts rated as medium in terms of conservation importance and low in terms of conservation importance by the freshwater ecologist, were selected for development. A considerable portion of the area rated as high in significance by the botanist was also selected for use as part of the development. The old braid of the Kuils River largely preserved together with the wetland areas that occur along its path.

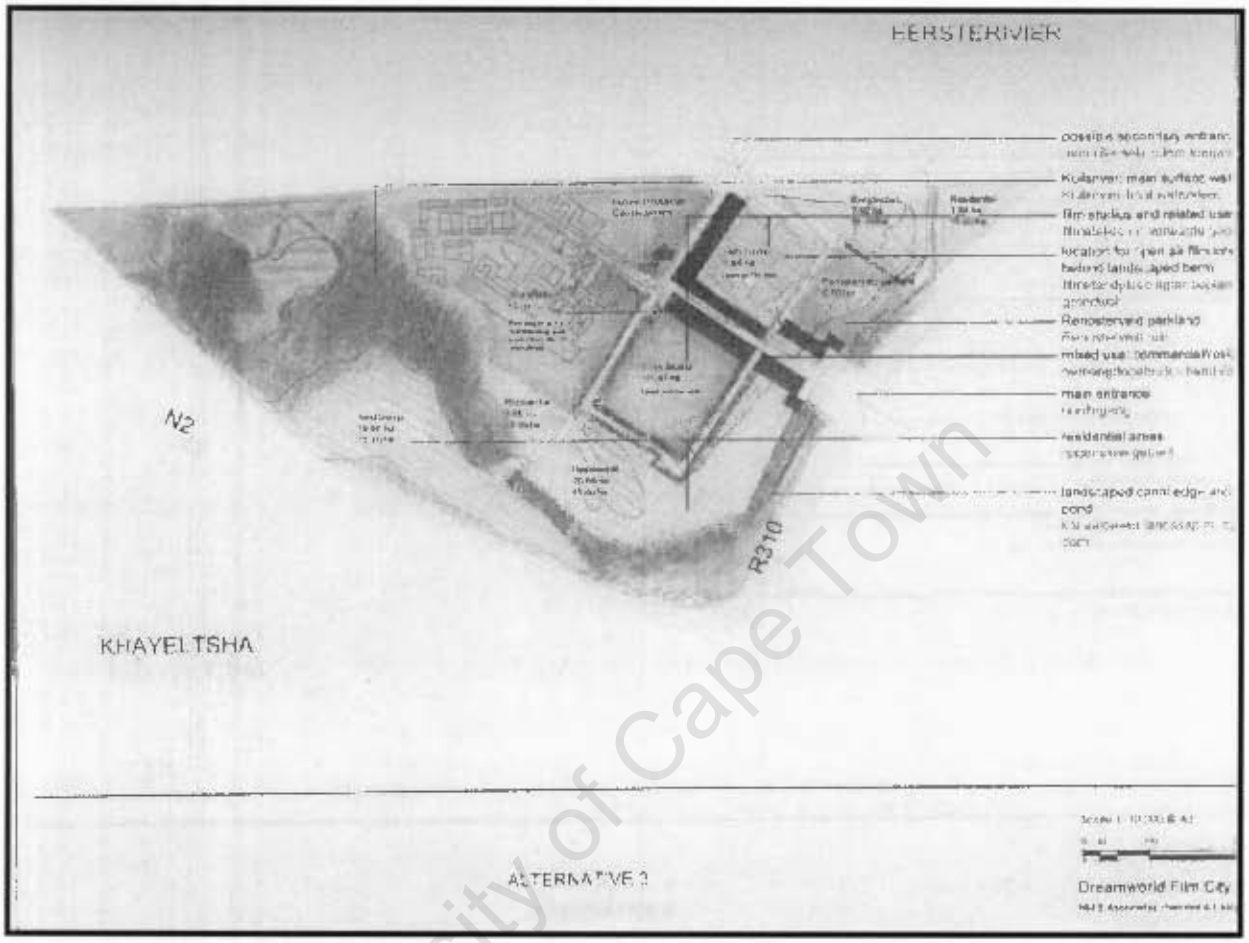
The area lying north of the dune slack wetlands as well as the central portion of the site was proposed for the establishment of the film studio and associated activities. Part of the botanically significant area on the north-eastern portion of the site was proposed for the location of film lots. A portion of the sensitive botanical area would be retained should this alternative be adopted.

The proposed densities of houses ranged from 15 to 20 units per hectare. This was considered in planning terms as low to medium density. A permanent residential component was proposed to be located on the southern portion of the site, below and to the east of the conservation areas rated as high in significance. Another residential portion was also proposed for the north-eastern portion of the site.

The permanent wetland located on the southern portion of the site would largely be filled and utilized for development. The proposal is to implement engineering solutions in order to manage the loss of water detention area. Approximate developable area: 142 hectares; approximate conserved area: 42 hectares and buffer areas: 14 hectares (to be use for passive recreational areas).

Map 3: Design alternative 3

(Source, ENP, EIR, 2005a).



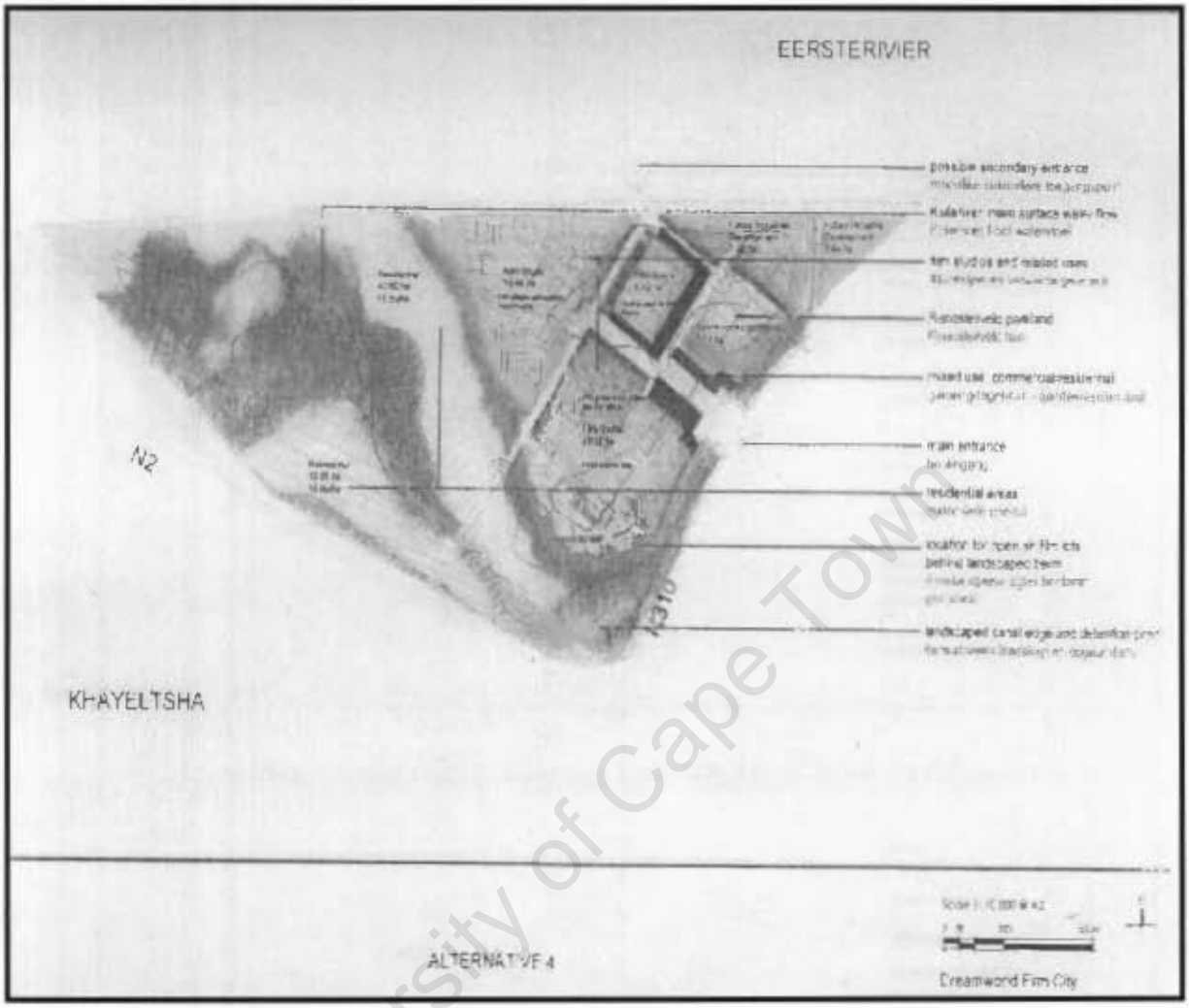
(d) Alternative 4 see Map 4 (overleaf below)

This alternative was similar to alternative 3 in the sense that the same conservation areas rated as medium and low would be utilized for development. However, in this alternative, the residential component wraps itself entirely around the old Kuils River braid and wetland areas and continues into the central portion of the site.

The film studios and related activities are located in the central and north-eastern portion of the site. The open film lots for outdoor filming are positioned on the south-eastern portion of the site. This alternative has introduced a green bermed area separating the filming activities from the residential component. Approximate developable areas: 142 hectares; approximate conserved area: 42 hectares and buffer areas hectares (to be used for passive recreational areas).

Map 4: Design layout alternative 4

(Source, ENP, EIR, 2005a).

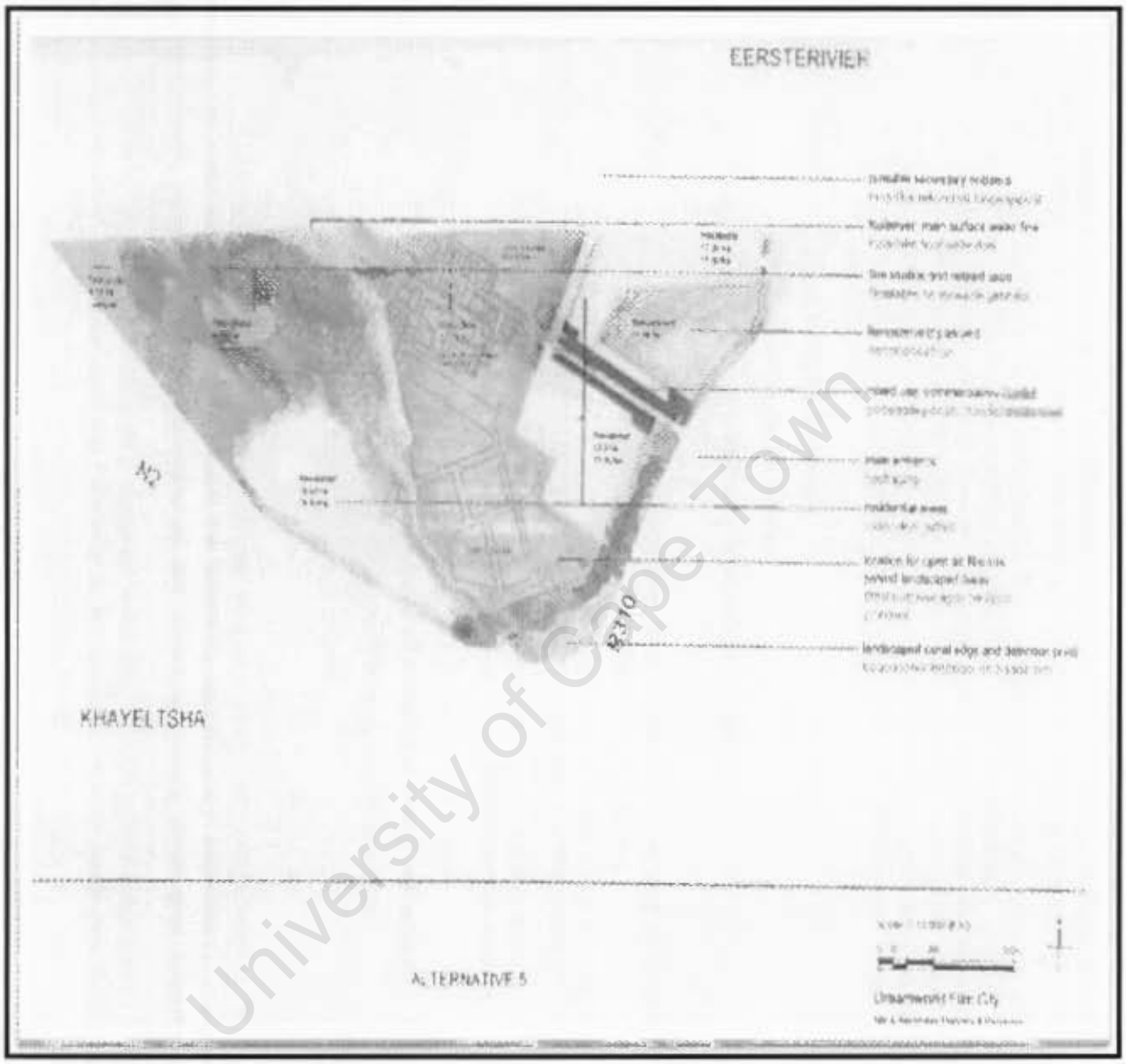


Alternative 5 see Map 5 (overleaf below)

This alternative was designed during the scoping exercise, which according to the Environmental Partnership conserves wetlands while granting socio economic benefits to the sub economic areas.

Map 5: Design alternative 5

(Source, ENP, EIR, 2005 a).



3.6.2 Discussion in relation to EIA effectiveness of alternatives

'Alternatives are often a contentious issue in EIA processes. Why are we required to consider them and who decides which alternatives to assess? According to DEAT guidelines (2004) the goal of evaluating alternatives is to find the most effective way of meeting the need and purpose of a proposal, through enhancing the environmental benefits, or through reducing or avoiding potentially significant impacts' (WESSA, 2005).

In this case study the design and structural layout alternatives were considered, namely, four design of the layouts and the no-option option. However, alternative 2 was the option preferred by WESSA, Cape Nature and DWAF as it conserved more wetlands than alternatives 3, 4 and 5, but since it was said to be not financially viable to the proponent it was dropped. In the absence of alternative 2, alternative 5 proved to be the better option with lower negative impacts on wetlands than alternatives 3 and 4, which in turn have more socio-economic benefits than alternative 5. In brief, alternative 5 appeared to strike a balance between conservation and socio-economic benefits. This alternative (5) was the preferred option of the EAP, but not of WESSA, Cape Nature, and DWAF as they preferred alternative 2. WESSA objected to the development in the absence of alternative 2. More on the conflict surrounding alternatives is discussed under impact assessment and decision making.

No site/location alternatives were considered and were not required by DEA&DP. This, according to WESSA, was a concern and therefore the EIA process was considered as being flawed. WESSA argued that site alternatives were necessary as the area is ecologically sensitive. The degree of WESSA's concern around the lack of site alternatives was demonstrated by their appeal against the environmental authorisation.

WESSA, which objected to the development after the dropping of alternative 2 which proved to have more conservation benefits, made the following statement during the IAIA South Africa annual conference presentation of the Cape Town Film Studio:

> *'In the case of Dreamworld, alternative sites were not an option for consideration as the tender was awarded to that particular site. Despite this unfortunate situation, an alternative 2 that we believe would have served the need and purpose (i.e. to build a film studio) and would have had environmental impacts within acceptable limits, was possible and was considered during the scoping process. This alternative was, however, later withdrawn as it was claimed that it was not economically feasible'* (WESSA, 2005)

The choice of the site by the adjudication board because its size reflects political and economic pressure before the EIA process.

The authority official interviewed indicated that EIA mainly focuses on mitigation and that site alternative considerations are in reality often not considered a big issue (Nkula, 2008, pers.com). Moreover, the guidelines (e.g., DEAT 2004) use words such as 'reasonable', 'feasible' and 'practical' when discussing alternatives, indicating that only alternatives that have the potential to be implemented should be considered.

The above indicates that the interpretation of alternative considerations by affected parties differs from that of the competent authority. Differing interpretation of the requirement to consider alternative can be ascribed to a lack of legal clarity, which was identified as one of the factors hindering effectiveness of EIA (**see Annexure 1**). Acknowledging the lack of legal clarity, the official interviewed anticipates that the NEMA regulations amendment should address this issue through an entirely new provision for the consideration of alternatives (Nkula, 2008, pers.com).

3.7 Impact Assessment

The assessment stage involves detailed work to improve understanding of the impacts that were selected for study in scoping (UNEP, 1996). The assessment stage in EA encompasses the following (Hill, 2004):

- The collection of data and information in the baseline studies;
- Impact prediction and analysis;
- Synthesis of information on impacts to determine impact significance;
- Identification of mitigation measures, and

The assessment of impacts should involve a synthesis of the nature of impact, extent, duration, intensity and probability (Wood, 2003). Having looked at the theoretical requirements for good practice in impact assessment stage, the overarching evaluation framework criterion for this stage is outlined below:

To what extent were the significance impacts assessed?

3.7.1 Findings

After scoping took place between 01 September and November 2004, a Plan of Study for the EIA phase was submitted to the competent authority and approved in May 2005 (ENP, EIR, 2005a) and subsequently the EIA was carried out.

All the impacts identified during the scoping study were assessed. Specialists' studies as recommended during the scoping phase were carried out, which included a botanist for vegetation studies; a geohydrologist for geohydrogical studies and a freshwater ecologist for wetland impact studies.

Specialist studies on fauna, heritage impact assessment, traffic impact assessment, economic impact assessment and wetlands were carried out. These specialists provided all the relevant information related to the impacts associated with all the alternatives.

The impact significance was assessed using a standard rating method. This method comprises of a comparative evaluation of the extent, duration, intensity, probability and mitigation of impacts for each alternative development. The criteria are described below.

Extent of impacts as being:

- Immediate (the site and immediate surrounds);
- Local;
- Regional (Western Cape);
- National (Countrywide), and
- International.

Duration of impacts either:

- Short term (0-5years);
- Medium (5-15 years), and

- Long term (operational life of the development).

Intensity of impact being either:

- Low (where natural, cultural and social functions and processes are not affected);
- Medium (where the affected environment is altered but natural, cultural and social functions and processes can continue, and
- High (where the affected environment is altered to the extent that natural, cultural and social functions and processes will temporarily or permanently cease).

Probability of impact being either:

- Low probability (possibility of impact occurring is low);
- Probable (where there is a distinct possibility that it will occur), and
- Highly probable (where impact is most likely to occur).

Significance of impact:

- Low (where natural, cultural and social functions and processes are not affected);
- Medium (where the affected environment is altered but natural, cultural and social processes can continue), and
- High (where the affected environment is altered to the extent that natural, cultural and social functions and processes will temporarily or permanently cease).

Impacts on wetlands were done for each alternative to indicate how much wetland loss is associated with each alternative and is presented below.

(a) Impact of alternative 1.

- This alternative implies that existing rights could be exercised or that the site would remain in its present state. It is called the no-go option.

(b) Impact of alternative 2.

- Permanent loss of seasonal wetland habitat through construction within wetlands.
- Pollution of surface water resulting in contamination and possible degradation of threatened wetland habitats.
- Change in the hydrological functioning of wetlands through infilling and diversion of natural surface runoff, as well as increased storm water runoff volumes associated with greater hardened surface area, and
- Increased proximity of activity and associated disturbances within the vicinity of wetlands.

(c) Impact of alternatives 3 & 4.

- Permanent loss of seasonal wetland habitat through construction within wetlands.
- Habitat fragmentation/loss of connectivity.
- Change in the hydrological functioning of wetlands, and
- Increased activity in close proximity of wetlands and associated disturbances.

(d) Impact of alternative 5

- Permanent loss of seasonal wetland habitat through construction within wetlands.
- Habitat fragmentation/loss of connectivity.
- Pollution of surface water resulting in contamination and possible degradation of threatened wetland habitats, and
- Change in the hydrological functioning of wetlands through infilling and diversion of natural surface runoff, as well as increased storm water runoff volumes associated with greater hardened surface area.

Table is also used to indicate the loss of wetlands associated with each proposed development.

Table 3: Summary of wetlands reflected graphically and the percentage loss associated with each of proposed development alternatives

(Source: ENP, EIR, 2005a).

Wetland Habitat	Approximate size (Ha)	Ecological and Functional importance	Alternatives and % loss 1	2	3	4	5
Wetland 1a & b	16.230	High	0%	79%	79%	59%	13%
Wetland 1c	2.616	Low-Moderate	0%	0%	0%	0%	51%
Wetland 2	1.483	High	0%	100%	100%	100%	100%
Wetland 3a	1.678	Low-Moderate	0%	100%	100%	0%	33%
Wetland 3b	4.438	High	0%	0%	0%	0%	0%
Wetland 3c	5.049	High	0%	85%	85%	0%	0%
Wetland 3d	5.835	High	0%	0%	0%	0%	0%
Wetland 3e	11.342	High	0%	0%	0%	0%	0%
Wetland 4	4.082	High	0%	30%	30%	0%	0%
Wetland 5	34.309	Moderate	5%	65%	65%	65%	42%
Wetland 6	3.199	Low	25%	100%	100%	100%	100%
Wetland 7	5.771	Moderate	60%	80%	80%	44%	44%

As demonstrated by above the table, different alternatives prove to have different impacts on renosterveld. Alternative 1, the no-go option, proved to have no impacts on renosterveld wetlands indicated as 0% in wetlands 1 (a) and 1 (c). Alternative 2

and 3 proved to have the same impacts with 79% loss on renosterveld of high significance and 0% on those of low moderate. Alternative 5 proved to destroy 13% high significance renosterveld and 51% low moderate renosterveld which are on site. The tables below indicate other impacts assessed according to duration, probability, spatial magnitude and significance. They present assessment based on each alternative's impact (significance on wetlands), ground water, visual, and noise to surrounding areas.

Table 4: Impact significance of each alternative on wetlands

(Source: ENP, EIR, 2005a).

	Spatial	Duration	Probability	Intensity	Significance
Alt 1	No impact	No impact	No impact	No impact	No impact
Alt 2	National	Long term	High	High	Medium
Alt 3	National	Long term	High	High	High
Alt 4	National	Long term	High	High	High
Alt 5	National	Long term	High	High	Medium

Alternative 1, the no-go option, shows no impact on wetlands. Alternative 2 and 5 prove to be better from an environmental point of view, with medium significance ratings. Alternative 3 and 4 are the same - showing high significance ratings. The following table evaluates each alternative on ground water.

Table 5: Impact of alternatives on ground water

(Source: ENP, EIR, 2008a).

	Spatial	Duration	Probability	Intensity	Significance
Alt 1	No impact	No impact	No impact	No impact	No impact
Alt 2	Local	Long term	High	Medium	Medium
Alt 3	Local	Long term	High	Medium/High	Medium/High
Alt 4	Local	Long term	High	Medium/High	Medium/High
Alt 5	Local	Long term	High	Medium/High	Medium/High

The no-go option shows no impact on ground water. Alternative 3, 4, and 5 show similar impacts in all characteristics, such as local in spatial impacts; long term under

impact duration; high probability; Medium/High in intensity, and with Medium/High significance.

Visual interference/changes are some of the impacts associated with development in the neighbourhood. The development will change the appearance of the neighbourhood to surrounding areas. In order to understand the visual impact, assessment based on each alternative was undertaken and is showed in the table below.

Table 6: Visual impact of alternatives

(Source: ENP, EIR, 2005a).

	Spatial	Duration	Probability	Intensity	Significance
Alt 1	No impact	No impact	No impact	No impact	No impact
Alt 2	Local	Long term	High	Medium	Very high
Alt 3	Local	Long term	High	Medium/High	Medium/High
Alt 4	Local	Long term	High	Medium/High	Medium/High
Alt 5	Local	Long term	High	Medium	Medium

The option to not consider the development would result in *status quo* of the environment as indicated by the 'No impact' answers in all its impact evaluation characteristics. Alternative 2 proved to have more negative visual impacts than others, with more or less the same impacts indicated as medium in ratings.

Development activities will affect the tranquillity of the place. Among others, noise impact will affect a laboratory called iTemba lab, which is less than 200 meters from the development site. In order to understand noise level associated with development, noise impact was assessed and evaluated. All the alternatives were evaluated and proved to have different noise impacts.

Table 7: Impact of noise from the film studio on surrounding areas

(Source: ENP, EIR, 2005a).

	Spatial	Duration	Probability	Intensity	Significance
Alt 1	No impact	No impact	No impact	No impact	No impact
Alt 2	Immediate	Long term	Medium	Medium/Low	Medium/Low
Alt 3	Immediate	Long term	Medium	Medium	Medium/Low
Alt 4	Immediate	Long term	Medium	Medium	Medium/Low
Alt 5	Immediate	Long term	Medium	Medium	Medium/Low

There would be no noise impact to the surrounding areas if the no-go option was considered. All development options prove to have almost the same level of noise impacts in terms of immediate impact, long term duration resulting in Medium/Low significance. The only impact characteristic that is different from the other alternatives proves to be alternative 2 with 'Medium/Low intensity'.

The impact of the development on the surrounding communities was considered to be positive from the socio-economic perspective. Depending on the alternative chosen, the poor communities could realize more or less socio-economic positive impacts such as long term jobs:

- Alternative 2: 1097 jobs;
- Alternative 3: 2458 jobs;
- Alternative 4: 2458 jobs, and
- Alternative 5: 2269 jobs

All the impacts assessed were summarized in one table and sent for comment by the I&APs. The summary of impacts before mitigation was circulated for comments and according to the consultants might change after the mitigation measures to lower impacts.

Table 8: Summary of the significance ratings without mitigation

(Source: ENP, EIR, 2005a).

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Botany	High-	Low	High	High	Medium/High
Loss of wetlands	High-	Medium	High	High	Medium/High
Fauna	Low	Medium	Medium	Medium	Medium
Geohydrology	No impact	Medium	Medium/High	Medium/High	Medium/High
Visual	No impact	Very high	Medium/High	Medium/High	Medium/High
Noise	No impact	Low/Medium	Low/medium	Low/Medium	Low/Medium
Impact on development	Very High	Medium	High	High	High
Compatibility of residences and filming on site	Not applicable	Not applicable	High	Medium	Medium/High

The above table is a summary of the impact assessment already discussed. After the impacts were assessed, a draft EIR was sent for comments to I&APs, as follows:

Comments from the freshwater specialist did not support the development, but indicated that alternative 5 was better than alternative 3 and 4. Alternative 3 and 4 would lead to substantial loss of wetlands. However, these alternatives (3 and 4) in terms of the economic specialist studies proved to have more socio-economic benefits than alternative 5. Ultimately, alternative 5 proved to be the better option in terms of wetland impacts after alternative 2 was discarded due to financial reasons.

There was a concern about the lack of clarity of the extent of wetland degradation from the construction of a storm water system on the site and around the wetlands. This was because of the specifics of construction activities that were, as yet, unknown. Comments received from current land users indicated support for alternative 2 as it is associated with low biophysical impacts, although this option did not prove to be financially viable for the proponent. Findings from the water ecology assessment indicated that the long-term impact on water quality could not be effectively mitigated. The City of Cape Town and Cape Nature commented against

option 3, 4 and 5 and recommended option 2 with all mitigation measures as proposed by the freshwater ecologist. Cape Nature argued that the input of the ecological specialist was not used to inform the layout of the proposed development, as the ecological impacts on the site are unacceptably high. Some of the concerns of Cape Nature regarded the following: the possible presence of Red Data Book species; the development may impact on high priority wetlands further downstream; and the alternative layout was chosen independently of the specialist ecological reports and recommendations.

WESSA objected strongly to all proposed development alternatives as its preferred alternative - 2 - was dropped. WESSA was concerned that all the alternatives left: alternatives 3, 4 and 5 – would result in the loss of highly significant and critically endangered habitats. WESSA therefore promised to appeal any decision that would result in the destruction of any wetland and/or irreplaceable vegetation remnants, as identified by the biodiversity specialists. WESSA stated that *'any such destruction will be irresponsible and immoral, and would go against international, national and local policies and legislation'* (ENP, EIR, 2005a). Other comments as made by WESSA include:

- Apparent socio-economic benefits do not justify destruction of wetlands;
- In the interest of sustainable development, environmental constraints should have been given adequate consideration in the earliest possible stages of project conception, for example when assessing the bids, and
- WESSA cannot support the financial offset as a mitigation measure for irreplaceable vegetation.

The Department of Water Affairs and Forestry (DWAF) was concerned about the impact of the proposed development on the Kuils River. According to the Freshwater Ecological Assessment, even alternative 5 (which is the recommended alternative by the consultants) with mitigation, would have highly significant impacts due to the loss of wetland habitat of moderate or high conservation status. The watercourse would be susceptible to water quality changes within the area. From the wetland perspective, alternative 2 would have a smaller negative impact on watercourses

and could avoid significant loss of seasonal wetland habitat through construction. As a result, alternative 2 was the option recommended by DWAF, WESSA, Cape Nature and the City of Cape Town (ENP, EIR, 2005a).

3.7.2 Discussion in relation to effectiveness of impact assessment

During the impact assessment stage, different impacts, as identified during the scoping exercise, were assessed. These include traffic impact assessments in which it was proposed that additional public transportation modes, routes or improvements on existing systems had to be made. Heritage considerations were found to be not an issue. However, the main issue was impacts on wetlands.

One of the evaluation criteria of this impact assessment includes 'identification of measures to lessen/alleviate negative impacts and enhance benefits'. Mitigation measures to alleviate identified negative impacts on wetlands were proposed. For example, it was recommended that during the construction stage all the ecological sensitive sites be demarcated and declared 'no admittance areas'. The sign declaring 'no admittance' was observed during the field visits. This issue demonstrated some of the effectiveness of this stage on identifying ways to mitigate impacts. More on mitigation effectiveness is provided in subsection 3.10.2.

According to Hill (2004: p, 34) *'impact significance should be determined both with and without mitigation measures'*. The summary of impacts was made during the circulation of the draft EIR to I&APs. The circulation of the draft EIR indicates the opportunity given to I&APs during the assessment stage which indicates good EIA practice.

The EIA effectiveness literature stresses that impact assessment should consider the impacts in terms of its spatial impacts, i.e., how far such an impact can be felt, the duration which can be either short term, medium or long term; magnitude and probability. The evaluation conditions accompanying the overarching criterion included the question of the effectiveness of the methodology for successful EIA practise (**see Annexure 1, Table 1, p. 13**). In the Cape Town Film Studio case study it was found that the methodology used for assessing the impacts is 'standard rating

method' as described under the findings in subsection 3.8.1. The standard rating method captured all the characteristics of the impacts as required for effective impact assessment, e.g., duration of impacts, likelihood, spatial extent and significance. The standard rating method was also applied during the impact assessment on ground water, visual, wetlands, and functional importance of wetlands, which is evidence of good EIA practice. Consequently, impact assessment proved to meet some of the effectiveness requirements in this regard.

Positive impacts were also assessed and enhanced. The effectiveness of the assessment of positive impacts was seen through the weighting of all alternatives in the balance of social and economic benefits against biophysical impacts. Alternatives 3 and 4 proved to have more socio-economic benefits (for example number of jobs) than alternatives, 2 and 5 but were dropped due to significant adverse impacts on wetlands. Alternative 5 proved to have fewer negative impacts on wetlands after alternative 2 was discarded but lower socio-economic benefits than alternatives 3 and 4.

The assessment of the social, economic and biophysical environments and their weighting indicates the comprehensiveness of the impact assessment. The assessment of all impacts proved to satisfy the evaluation framework criteria of impact assessment, in respect of 'comprehensive assessment of all impacts' (**see Annexure 1, Table 1, p.13**) and thus good EIA practice.

The impact assessment stage involved other parties. For example, during the assessment there was competition between the key parties: the EAP, WESSA, the competent authority (DEA&DP) through cooperation with the Department of Water Affairs and Forestry (DWAF) as the agency with relevant expertise. During the impact assessment, DWAF preferred alternative 2 along with the City of Cape Town, Cape Nature and WESSA. DWAF argued that the area is sensitive and would like alternative 2 be considered with particular mitigations. However, alternative 2 was dropped as it proved not to be financially viable. According to Hill (2004: p. 98) *'analytical competition takes place in the shadow of the law. In disputes, private organisations can turn to litigation in the courts to discredit the analyses contained in an EIS'*.

The comments received from WESSA, the City of Cape Town, the DWAF regarding their dissatisfaction with the design layout alternatives during the commenting period of the draft environmental impact report (EIR), led to the hosting of a workshop. The workshop, hosted by the client and the design team, engineering team, project management, environmental consultant, and ecological specialists, was to determine whether changes could be made in a manner that allowed the project to still be viable as well as retain those areas contributing to biodiversity and ecosystems as a whole. As a result of the above interaction, alternative 5, which was created during the scoping phase, was revised.

The revision of alternative 5 considered key impacts namely, botany, wetlands and fauna. Therefore the botanical, faunal and freshwater specialist studies were commissioned for the second time. The specialist studies were undertaken after receiving approval from the competent authority (DEA&DP). The revision of alternative 5 was an attempt to reach inter-subjectivity between key stakeholders: WESSA, City of Cape Town, Cape Nature, DWAF and the *The Environmental Partnership*.

The assessment of revised alternative 5 in terms of botany found that the development of residential units in wetlands demarcated by extensive *Typa capensis* beds in the southeast of the site may result in a raising of the peak water level by 6cm in parts of the adjacent floodplain. It was modelled by the engineers and was shown to be likely to have little effect on the areas of botanical sensitivity. Specialist studies in the revised alternative 5 showed that a total of 15 hectares of renosterveld vegetation in an adjacent area will be conserved, the later seem to demonstrates good outcomes of revised alternative 5 revision on mitigation of negative impacts on wetland. About 3 hectares of this 15 hectares falls within a highly degraded area to the east and 12 hectares of intact renosterveld wetlands are to be conserved.

Various areas were set aside during the revised assessment of alternative. About 94% of wetlands rated as high in significance by the freshwater specialist were retained in this alternative amounting to approximately 45.86 hectares. About 57% of wetlands rated moderate in significance were retained - amounting to 23 hectares. Lastly, 55% of wetlands rated as low to moderate in significance were retained which

amounts to approximately 2 hectares. The retaining of wetlands as mentioned above indicates the effectiveness of impact assessment stage in mitigating negative impacts on wetlands.

After alternative 5 was revised, it was presented again for comments to WESSA, Cape Nature, DWAF and City of Cape Town as key stakeholders objecting to the development. These stakeholders once more objected to the alternative 5 despite its revision with many positive changes in their favour, such as retaining substantial amounts of some wetlands.

According to Sadler (1995: p. 15) *'impact assessment should provide appropriate opportunities for public involvement of communities'*. The communities were given an opportunity to deliver their comments on the revised alternative 5. There was an extension of the commenting period by two weeks after stakeholders requested it, which showed flexibility by the EAP. The effectiveness of EIA theory stresses the need to involve the public throughout the EIA process and the Cape Town Film Studio shows some good elements in this regard.

Systematic assessment of the impact of the Cape Town Film Studio was not confined to the above mentioned key affected parties such as WESSA, Cape Nature, City of Cape Town, and DWAF only, but also to the ordinary citizens, NGOs, businesses and the society at large. Business institutions such as ABSA, NGOs, and ordinary citizens from Khayelitsha and other surrounding areas were consulted during the impact assessment stage and were very positive and excited about the project. The NGOs and business institutions' directors and managers support the development, hoping it will lead to investment opportunities to the areas and the whole Western Cape region. Since some of the surrounding community's members are not employed, they mainly support the project, as it will create employment opportunities for them. Therefore, the Cape Town Film Studio project is seen to bring some economic opportunities to ordinary citizens. Different public consultation methods as stipulated by Environmental Conservation Act No 107 of 1998 for public participation to comment on the draft report were used. These include posting reports on the website of *The Environmental Partnership*, in libraries, at community

meetings, handing out information sheets as well as the media informing the public of its availability.

The same scenario once occurred in Japan in which an NGO was not satisfied with the alternatives (Richardson, 2005). The objections raised by the NGO ultimately influenced the project positively. In the Cape Town Film Studio, the revision of the design layout shows the flexibility of the EIA process and relatively good EIA practice.

As part of the mitigation of the impacts on the wetlands, it was recommended that a trust fund for a wetlands programme be set up. This is discussed in full under subsection 3.10. It was also recommended that the EMP be drawn up before the construction phase, detailing how negative impacts will be minimized and the positive impacts be enhanced during the construction and operation phases.

The assessment of impacts proved to be comprehensive. It was not confined or biased to biophysical impacts, and also included socio-economic benefit assessment to the surrounding communities. All alternatives identified during scoping were assessed and were weighted for their different merits. For example, socio-economic impacts of different alternatives were assessed and proved to have different benefits in terms of jobs creation. Alternative 2 has the smallest number of possible jobs with 1097, while alternative 5 has the potential to create 2269 jobs. The choice of alternative 5 with 2269 jobs (at the beginning of the project) by the decision makers, illustrates the enhancement of positive impacts which is one of the required EIA practice elements. An economic impact assessment study was prepared in which estimated that a total of around 8000 combined direct and indirect employment opportunities will be created during the operation period.

3.8 Impact evaluation

Impact evaluation consists of evaluation methodology, involvement of I&APs and also the weighing of social, economic and biophysical impacts before and during decision making. I&APs, including experts and the public are involved in shaping the

decision through evaluating both negative and positive impacts before the authority takes the decision.

Value conflicts occur at every stage in EIA (Richardson, 2005). The influence of personal value systems and beliefs is unavoidable when creating an expert evaluation and interpretation (Wilkins, 2000).

The overarching criterion in the evaluation of impact evaluation is to what extent were the significance impacts evaluated?

3.8.1 Findings

According to (RSA: DEAT, 1992c: p. 4), evaluation is defined as 'the process of … weighing information on the consequences or impacts of alternatives'. During the impact evaluation, alternative 5 was recommended as the preferred alternative before the decision about other alternatives was made by the consultants. *The Environmental Partnership* came with the following arguments (Du Toit, 2008, pers. com).

- Alternative 5 shows a balance between socio-economic and biophysical aspects;
- A large portion of the site is left open for conservation purposes;
- In contrast to the consultant's recommendation of alternative 5, alternative 2 was recommended by Cape Nature and WESSA, who argued that it significantly addresses the conservation of biophysical systems and would still have socio-economic benefits. The prevalence of different options certainly reflects value conflicts between the consultants, Cape Nature and WESSA, and.
- Alternatives 3 and 4 proved to have more positive socio-economical impacts, but their negative impact on wetlands proved to be more significant than that of alternative 5.

Alternative 5 conserves the wetland mosaic type labelled as Wetland 3a, 3b, 3c, 3d and 3e. Also, almost 50 % of the renosterveld wetlands 1 (refer to the Table 3) will be conserved, with the maintenance of a biophysical corridor to the renosterveld wetlands rated as very high in significance on the eastern side of the R310/Baden Powell Drive. However, Wetland 2, although smaller in area, is rated as high in significance, and will be lost as it occurs where the outdoor film sets are proposed.

3.8.2 Discussion in relation to effectiveness of impact evaluation

Despite their common commitment to sustainable development (Cape Nature, WESSA and *The Environmental Partnership*), they have polarized views on what constitutes appropriate trade-offs between socio-economic and biophysical impact evaluation that precedes decision making. With cognizance that sustainable development consists of three pillars: social, economic and biophysical, their interpretations of sustainable development were different and disparate. There was a difficulty of drawing the sustainability line that successfully strikes a balance between conservation and socio-economic benefits.

There was strong influence of personal value systems and beliefs in impact evaluation as manifested by WESSA, Cape Nature and the consultants. This substantiates (Wilkins, 2000), as he points out that the influence of personal value systems and beliefs in evaluation is unavoidable.

For example, the consultant's expert opinion and argument was that the small portion of wetlands of high significance should be sacrificed for the socio-economic benefits demonstrated in alternative 5. The consultant also argued that humans are part of the environment and their benefits should not be compromised (Du Toit, 2008, pers.com).

Contrarily, WESSA's preferred alternative 2, would conserve more wetlands with relatively fewer jobs created compared to alternative 5. The controversies over alternatives between parties, who are advocating for sustainable development, show that strong impact analysis, which is required in overcoming partisanship, was

involved during the evaluation of better options between key parties. On the other hand the controversies highlight the vagueness of the concept sustainable development, which is open to many interpretations. Sustainable development seems more hypothetical and needs to be unpacked more to be more actionable on the ground despite the inevitability of human subjectivity in the EIA process. On the topic of subjectivity during impact assessment and evaluation in terms of the best decision, Hill (2004: p. 152) acknowledges that there is no right decision but only those that can be agreed to

> *'for the stages of evaluation and decision there are no correct decisions, only ones that can be agreed through communicational action in a process of micro politics'*

Reducing the vagueness of sustainable development would help overcome subjectivity and promote inter-subjectivity from a planning level for more effective EIA, especially on project of this magnitude. Inter-subjectivity is about overcoming different perceptions, attitudes on impact assessment evaluation and reaching a point of compromise by all parties.

Having looked at the controversies inherent in evaluation, the following section deals with how impacts were mitigated.

3.9 Mitigation

The purpose of mitigation in EIA is to look for ways to achieve the project objectives while avoiding negative impacts or reducing them to acceptable levels. The purpose of enhancement is to look for ways of optimizing environmental benefits. Remedial action can take several forms, i.e., avoidance (or prevention), mitigation (by considering changes to the scale, design, location, siting, process, sequencing, phasing, management and/or monitoring of the proposed activity, as well as restoration or rehabilitation of sites), and compensation (often associated with residual impacts after prevention and mitigation). The above is a ranked hierarchy of acceptable mitigation measures for potential impacts (Bass and Herson, 1993).

Evaluation criteria for mitigation of impacts are: significance of impacts after mitigation, types of mitigation, enhancing positive impacts and the involvement of the local communities.

3.9.1 Findings

Mitigation measures were suggested to minimize identified negative impacts.

(a) Noise Mitigation

Creation of berm was a recommendation in order to minimize noise impacts from the nearby passing R310 road. A relationship can be established between the proponent and iTemba Labs (Laboratory located 200 metres from the site) in order to determine compatible scheduling of noise emanating from the Labs or from the filming activities to reduce noise impact on iTemba Labs and the Cape Town Film Studio, respectively.

(b) Compatibility of residential and film activities on site

It was recommended that in order to minimize impacts, buffers be created so as to screen certain activities from the residential area. To avoid construction impacting negatively on flora, wetland and fauna and to avoid noise, it was recommended that construction occur under the guidance of an Environmental Management Plan monitored by a suitably qualified Environmental Control Officer.

(c) Fauna

The road passing through the green corridor that has been provided for the movement of fauna between the renosterveld wetland and extensive wetlands along the south and east of the site should be realigned outside the green corridor in order for this area to function effectively as link for remnants wetland patches. In addition, a freshwater ecologist should have input to the landscaping of these areas to ensure that they function effectively as ecological corridors.

(e) Ground water

No mitigation measures were made on ground water.

(f) Visual impact

It was recommended that in order to mitigate visual impact; a 100-meter building line be established along the eastern edge of the two storeyed housing and mixed use zone facing the R310 road. Additionally, a transparent perimeter fence should be erected on the western edge of the canal which could provide the security boundary.

(g) Wetlands and botany

All remnants of sensitive rehabilitated wetland areas and their associated dunes should be re-zoned and managed as conservation areas (ENP, EIR, 2005a).

3.9.2 Discussion in relation to effectiveness of mitigation.

During the field observation and the interview held with the site engineering agent (Du toit, 2008, pers.com), the following aspects were noted to be in compliance with environmental specifications:

- Demarcation of sensitive sites (no-go areas);
- Fencing off of conservation area with no 'admittance notice', and
- The environmental officer visits the site for monitoring twice a week and offers environmental guidance and education to ensure compliance with conditions as prescribed in the EMP.

The above-indicated adherence to the EMP conditions and the requirement s of the environmental authorization point towards effective mitigation. However, it was not possible to observe more mitigation measures being put in place, such as berms and others, due to the early phase of the development. Mitigation has been seen as great strength in South African EIA (Wood, 2003).

The EIA fell short on addressing residual impacts. The consultants responded that an Environmental Management System (EMS) was going to commence at the operational stage in 2009/2010 – refer to Table 2. This EMS will address residual impacts.

The extent of wetland to be lost was mitigated and reduced as a result of the EIA. Furthermore, Cape Nature who lodged an appeal with WESSA against the environmental authorisation earlier in the process, agreed to participate in stewardship along with the developer, in order to reduce the loss of wetlands (Ralston, 2008, pers.com). The environmental authorization issued by the Minister increased the monetary value attached to wetland conservation. A trust fund was establish to secure more wetlands wherever possible and for the rehabilitation of degraded wetlands on site.

The rehabilitation of the degraded wetlands during implementation was certainly a positive impact brought by the project, as the wetlands would remain in poor quality had the development not occurred. As a result, the project added value to the conservation of the remaining wetlands.

In conserving the remaining wetland habitat, all sensitive remnants and their associated dunes were to be rezoned and managed as conservation areas.

In terms of the shortcomings of mitigation, there was no recommendation on how to minimize the contamination of ground water. Quoting what the report stated about it;

> *'The Cape Flats Aquifer is already heavily impacted by waste disposal sites, informal settlements, industry related development and water treatment works, to name a few major sources. The proposed developments, by contrast, will have a relatively low impact on the aquifer and is compatible with surrounding developments*' (ENP, EIR, p. 70).

The EIA failed to address the cumulative impacts of ground water contamination. Instead, the project will cause more ground water contamination problems. This EIA's failure to address the cumulative impacts of Cape Town Film Studio is expected, as it is one of the shortcomings described in the EIA effectiveness literature (Thompson *et al.,* 1995; Sadler, 1996). For EIA to be effective, cumulative impacts must be considered at all stages of EIA (Buckley, 1989). This reflects the need for EA at a planning level. The lack of EIA at a level of planning was identified

as one of the problems hindering EIA effectiveness in South Africa (**see Annexure 1**).

3.10 EIR and Decision Making

EIA should incorporate consideration of alternatives in all decision making. All alternatives including the no-go option should be considered, assessed and evaluated throughout the EIA process leading up to decision making (Lawrence, 2001).

In South Africa, The Bill of Rights emphasizes that development should be sustainable, and in order to achieve it, development should take measures to prevent pollution and ecological degradation while promoting conservation and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development (Republic of South Africa, 1996: section 24).

The immediate aim of EIA is to facilitate sound and integrated decision making. The making of any decision will involve a number of trades-offs in the information base: between simplification and the complexity of reality; between the urgency of the decision and the need for further information; between facts and values; between forecasts and evaluation; and between certainty and uncertainty (Wood, 2003).

Decision making, like any other EIA stage, has its own requirements. Before a decision is taken the report should satisfy a number of requirements. These include, *inter alia,* evaluation of factors recommended in EIA reporting as well as quality EIR presentation. Some of these criteria for reporting and presentation are as follows (Biswak and Modak, 1999):

- Non-technical summary;
- Relevance of the report;
- Need and objectives of the proposal;
- Legal and policy framework;

- Description of the proposal and its alternatives;
- Description of the affected environment;
- Public consultation and inputs;
- Comparative evaluation of environmental impacts and alternatives;
- Impact characteristic summary table (for each alternative), and
- Environmental management Plan (EMP).

High-quality presentation of the EIA report is important, as it enables effective use by all participants (Biswak and Modak, 1999). These authors held this view from their EIA study in developing countries. In addition, they singled out fundamental issues to be considered for effective EIA practice in decision making, as listed below.

The EIR should contain at least (Biswak and Modak, 1999):

- Information on the environmental impact of the proposed activity and its alternatives, including an environmentally preferred alternative;
- Comparison of all relevant alternatives;
- Comparison and evaluation of impacts with environmental objectives and standards, and
- Gaps in knowledge.

Supplementing the fundamental issues as necessary for effective EIA is the quality review. The quality review enables the evaluation of all relevant factors as required for effective EIA. Quality review consists of guidelines that give relevant factors as must be considered for EIA to be effective therefore it is a crucial process to ensure effectiveness for the EIA. As a result quality review and effectiveness of EIA are interdependent.

The decision making stage is evaluated for its effectiveness according to a number of aspects; proper reporting attaching conditions to approval such as an EMP that identifies how proposed mitigation and monitoring measures will be translated into specific actions as part of impact management and appeal (**see Annexure 2, Table**

1, p. 13). However other aspects such as politics can have a greater impact on decision making.

3.10.1 Findings

Below is a quote from WESSA made during the IAIA South Africa annual conference about the Cape Town Film Studio EIA process:

> *'EIA process did not inform decision-making as intended. WESSA had the impression that, by the time that the EIA process had been completed, the relevant Minister had no option other than to approve the application. It appears to have been a party-political matter and not a considered decision made by the government of the country in the interests of social, economic and environmental sustainable development. Of particular concern to WESSA was the failure of EIA to consider alternative sites. An advance political decision was made to develop the site and the EIA process allowed only for structural and layout alternatives of the specific development on a given site. Site selection did not form part of EIA process*' (WESSA, 2005)

The environmental authorization was granted to the Cape Town Film Studio. The differing legal interpretation of alternatives has been the major trigger of the environmental conflicts. This is evidenced by acknowledgment by the DEA&DP official after environmental authorization was granted, that alternatives were considered, whereas WESSA argued that they had not been considered. WESSA referred to site alternatives, while the DEA&DP official referred to design and structural alternatives.

3.10.2 Discussion in relation to EIA effectiveness on EIR and decision making

The interview with the competent authority discovered that design and structural alternatives satisfied the EIA process in terms of alternative considerations on decision making. No site alternative was considered.

Both the competent authority official and consultant commented that the consideration of site alternatives is not a legal requirement (Du Toit, 2008, pers.com and Nkula, 2008, pers. com). This clearly indicates the urgency of addressing the differential interpretations of alternative consideration for improved EIA performance - not only in Western Cape, but also nation-wide.

The reporting was adequate in that the EIR content met all of the requirements as indicated in the report. *The Environmental Partnership* recommended alternative 5 for decision. DWAF and Cape Nature preferred alternative 2. Also, despite the threat of lodging an appeal made by WESSA during the commenting period the competent authority made the decision where environmental authorisation was given to Cape Town Film Studio for alternative 5 considered.

The taking of any decision involves the weighting of values and facts, i.e. evaluation of socio-economic benefits alongside scientific findings. Furthermore the concerns and preferences of the public are also given attention during the decision making process (Nkula, 2008, pers.com). Having mentioned that, alternative 5 was seen to address the social needs and conservation and is described below (on the first authorization):

- Film studio and open film lots covering an area of approximate 65.1 hectares;
- A residential component which will be located on the south-western and eastern portion of the site respectively covering an area of 37.2 hectares;
- A 200-room hotel, commercial and retail area, gymnasium and cinema and office opportunities covering an area of approximately 4.1 hectares; and
- Conservation areas covering an area of approximately 74 hectares

An EIA process usually ends with a decision to implement one of the alternatives. An environmental license granted by the competent authority usually formalises this decision. The granting of the license may be challenged in court (Janssen, 2001).

After approval was given for the Cape Town Film Studio with alternative 5 considered, WESSA appealed against the decision as they had promised to do so

for any decision that will lead to destruction of wetlands during the draft EIR comments phase. At the very same time, Cape Nature lodged an appeal against the decision.

During the administrative appeal process that took more than 4 months, WESSA, Cape Nature and the proponent were given an opportunity to present their own points of view about the Cape Town Film Studio. The appeal hearing according to WESSA was transparent. Eventually the Minister made the decision to grant environmental authorization to the proponent:

> '*Having considered the information at my disposal I, the Minister for Environment, Planning and Economic Development hereby decides, in terms of section 35 (4) of the Environmental Conservation Act (No 73 of 1989) to vary the decision of the delegated officer as set out in the first RoD*' (ENP, second RoD 2006d: p. 1).

The Minister approved the development, with the following changes:

- Area under conservation was increased from 74 hectares to 78 hectares;
- The area for the film studio and open film sets covering an area was reduced from 65 hectares to 61 hectares, and
- The wetlands trust was increased from R320 000 to R1.8 million.

Hill (2004: p. 61) states '*if conflicting parties cannot reach agreement, and discussion has been exhausted, a solution must then be imposed'*. The Minister exercised her discretion which imposed the decision resulting again in authorization.

The Minister pointed out '*that the decision reflects both the principles of the Bill of Rights and the implementation of the Sustainable Development triple bottom line approach which obliges decision makers to consider economic development, social equity and environmental integrity*' (Ministry of Environment, Planning and Economic Development: Provincial Government of the Western Cape, 2006). The Minister in this regard shared the same view as the EAP.

WESSA was not satisfied with the go-ahead given to the Cape Town Film Studio despite the returning of other wetland portions. They wanted to lodge another appeal against the decision in the high court, but failed due to the significant financial implications in a court appeal process (Ralston, 2008, pers.com).

Wood (2003, p.223) argues, *'making of any decision will involve a large number of trades-offs in the information base*'. The Minister's decision is indicative of this issue. The modifications on the amended environmental authorization support trade-offs within EIA for the following reasons:

- Presence of critically endangered species;
- Possible presence of Red Data book species;
- Wetland Area 2 of high significance was compromised post appeal, and
- Alternative 2 with 1097 jobs was discarded in favour of Alternative 5 with 2269 jobs.

As indicated, in the first environmental authorization by DEA&DP, R320 000 was charged as a financial offset to be paid into a trust fund to compensate for the loss of 4 hectares of irreplaceable vegetation. However, the Minister at her discretion increased the financial offset to R1.8 million, on completion of the development, to a fund which will be managed by Cape Nature and DEA&DP and used for 'conservation and environmental management purposes'.

Assignment of importance to various parameters in impact evaluation and decision making depends on human judgement and expert opinion, which involves a high order of subjectivity (Goyal and Deshpande, 2001). The Minister gave back a certain portion of wetland but also increased the financial offset (Du Toit, 2008, pers.com), in order to strengthen mitigation measures for impacts on wetlands.
The Minister's ruling on the appeal demonstrates the need to strike a balance between the socio-economic benefits and biophysical impacts for sustainable development purposes as these components are integrated. The quote below from the Minister illustrates this point.

'We have protected the critical wetland, promoted, through this development that 8 000 direct jobs will be created and the location of the film studio itself places critical economic infrastructure in a previously neglected and poverty stricken node. The benefits should accrue to the communities surrounding the development. The economic benefits spelt out here do not include the downstream opportunities that will be created in the value chain of the film industry' (Ministry of Environment, Planning and Economic Development: Provincial Government of the Western Cape, 2006)

According to the mitigation criteria, the second hierarchy of mitigation strategies is to minimise or reduce adverse impacts to 'as low as practicable' levels. The modifications of the second environmental authorization to the development proposal for better wetland conservation are evident and thus proved to be good practice in allowing development to go ahead, which will grant socio-economic benefits to the Western Cape region, especially the local poor people, with around 8000 jobs.

However, the sustainable development concept is vague and open to different interpretations. This difference in interpretation resulted in little agreement among stakeholders as to what constitutes sustainable development. Hill (2004: p. 3) holds the same view, stating that *'the operationalisation of the concept of sustainability is both difficult and contentious*'.

Inadequate guidelines in DEAT to assist decision takers on what constitutes sustainable development and acceptable losses in ecosystems, was found to be one of the reasons affecting EIA effectiveness by the group study **(see Annexure 1).**

The implication is that in order to improve and achieve EIA effectiveness, especially of large developments such as this (198 hectares), EIA at a policy or planning level is required. This could not only address cumulative impacts, but also recommend where a proposed development could be located based on environmental grounds. It could help the interpretation of what can be sustainable on the ground. Strategic Environmental Assessment (SEA), unlike project EIA, assesses impacts of the environment on the development (Sadler, 1996). It assesses the geography of an area, providing information on the ecology of an area. Sensitive areas are identified

at a higher planning level. SEA is complementary to EIA and could help to improve EIA effectiveness. In addition, SEA is able to address cumulative impacts more effectively. Groundwater cumulative impacts proved to be not fully addressed by the Cape Town Film Studio EIA. SEA can bring numerous benefits to EIA practice. SEA is discussed in Chapter 4 subsection 4.2.1.

After receiving environmental authorization, implementation of the Cape Town Film Studio was started early in 2008, in which earth moving works and road construction were the main activities.

Accompanying the environmental authorisation was an EMP. The authorisation required that the applicant compile an EMP, indicating how negative impacts during construction and operational phase would be kept to a minimum.

3.11 Implementation and follow up

Implementation and follow-up marks the commencement of the project on the ground after the environmental authorisation. It is important to indicate that the evaluation of implementation is confined to activities associated with earth moving works and roads construction as the project is in its earliest implementation stage.

The Environmental Management Plan (EMP) should contain a summary of impacts, mitigation measures for specific impacts, inspection procedures, a monitoring programme, and audit requirements (Hill, 2000).

The evaluation criteria of this stage are compliance to conditions attached to the environmental authorization and the EMP (**see Annexure 1, Table 1, p. 13**).

3.11.1 Findings

The authorization stipulated that an EMP done by the proponent and indicates how negative impacts will be kept at minimum. The EMP contains details on contractual commitment; environmental policy statement and environmental legislation.

Moreover, the EMP contains different roles for the Project Manager, Environmental Control Officers and Contractors as well as environmental specification as presented below:

- Site camp establishment;
- Environmental education;
- Demarcation of eating areas;
- Defining No-Go and working areas;
- Fuel and hazardous storage;
- Soil erosion;
- Water pollution prevention and management;
- Storm water control;
- Ablution facilities;
- Equipment service and cleaning, and
- Sensitive environmental features to care for wetland and vegetation.

As indicated above, not all of the EMP conditions which were applicable could be observed on site. Presented below are the EMP and environmental conditions that could be validated during this research

- The sensitive sites as identified by specialists and the construction areas must be clearly demarcated before construction/site-clearing activities may commence. Such demarcation must strive to prevent access (both human and machinery) to sensitive areas on the entire site.
- The demarcation must be done in consultation with the Environmental Control Officer (or Site Agent where appropriate) and specialist where appropriate.
- The mitigation/rehabilitation measures and recommendations as detailed by all specialists, must be adopted and implemented.

The evaluation criteria for implementation and follow up was, how was impact assessment undertaken, and did this meet the requirements of good practice

3.11.2 Discussion in relation to EIA effectiveness of implementation and follow-up

In evaluating the effectiveness of this stage, aspects such as compliance to and enforcement of conditions attached to the RoD and the EMP were key focus issues (**see Annexure 1, Table 1, p. 13**). During the field observation and the interview held with the site-engineering agent, the following aspects were noted to be in compliance with the environmental specifications:

- Demarcation of sensitive sites (no-go areas);
- Fencing off of conservation areas with no 'admittance notice', and
- The environmental officer visits the site twice a week for monitoring and offers and environmental guidance and education to ensure compliance with condition as prescribed in EMP.

Some of the evidence on effectiveness were noted by the compliance of workers who through environmental education new different bins for different types of wastes i.e hazardous and solid.

In addition, the researcher saw the EMP close at hand in the site agent's office, which ensures that all the activities are constantly checked against it for compliance purposes. The findings on the site showed strong compliance to the conditions, especially in keeping sensitive areas intact during heavy construction works and avoidance of 'no admittance areas'. Moreover, in terms of compliance, the environmental officer monitors the activities twice a week which was a requirement of the EMP and an environmental authorization condition.

However, the research revealed that monitoring by DEA&DP had not, to date been undertaken. Lack of monitoring was identified as a nation-wide difficulty in EIA problems in South Africa (**see Annexure 1**). The monitoring problem was attributed to staff shortages (Nkula, 2008, pers.com). The shortage of staff, being a long-identified problem, shows a lack of responsiveness by the competent authority and

could be partly attributing to the inadequate effectiveness of EIA in the Western Cape.

The Cape Town Film Studio case study analysis has reflected on the performance of the EIA carried out in 2005 from project design to follow-up stage. EIA managed to contribute to informing the design layout, one of the elements of EIA good practice.

During the scoping exercise, potential impacts of the Cape Town Film Studio and other issues were raised by I&APs. These included the need for specialist's studies on wetlands, fauna, and geohydrology. However, scoping did not inform the choice of site alternative as the site had already been chosen by the adjudication board. The lack of a site alternative and the dropping of alternative 2 was of major concern for WESSA.

All the identified impacts were assessed and evaluated, based on different alternatives - including the no-go option. Alternative 2 was the preferred alternative of Cape Nature, DWAF, City of Cape Town and WESSA. They argued that it had fewer impacts than other options; however it was said to be not financially viable to the proponent. After alternative 2 was discarded, WESSA objected to the development and promised to lodge an appeal should the development be given go-ahead, stating that '*any such destruction will be irresponsible and immoral and would go against international standards, national and local policies and legislation* (EIR, p. 37)'. In contrast, alternative 5 was the preferred option of the *The Environmental Partnership* - the consultants. They argued that alternative 5 preserved wetlands while yielding socio-economic benefits to the surrounding poor areas. Alternative 5 also proved to be the better option from the specialist studies after alternative 2 was not considered.

The decision by DEA& DP, which saw the go-ahead given to alternative 5, the preferred option to the consultants, was appealed by WESSA as promised. However, the Minister exercising her discretion gave the decision again in favour of the project with some changes to the trust fund and wetland allocation. Other conditions which had to be complied with were an EMP and environmental authorization conditions on how negative impacts will be minimized. The observation

on the ground indicated that all conditions attached to the decision were adhered to - such as demarcation of site, implementation of an EMP, fencing off of conservation areas and visits by the environmental control officer twice a week. In addition, Cape Nature signed a stewardship arrangement with the proponent for wetland conservation.

Up to the early implementation stage of the Cape Town Film Studio the implementation appeared to be effective.

CHAPTER 4: CONCLUSIONS AND PROPOSED IMPROVEMENTS TO EIA TO ADDRESS PROBLEMS

This chapter draws conclusions on the effectiveness of the EIA process for the case study based on the evaluation of study findings against the literature on best practice. It also proposes ways to address the problems identified in Cape Town Film Studio case study for future improvements to EIA practice.

4.1 Summary and conclusions

Good scoping, high quality reporting, adequate follow-up, independent review, rational decision making, unambiguous regulations, and SEA are identified as fundamental for EIA effectiveness (Biswak and Modak, 1999). The factors mentioned above helped the researcher to reach overall conclusions on the effectiveness of the EIA for the Cape Town Film Studio after it was evaluated using the evaluation framework.

The choice of site in a sensitive area was a trigger concern to key affected parties. The finding is that the effectiveness of EIA on the project design was negatively impacted by an adjudication tendering board that chose the site prior to the commencement of the EIA. This seems to affirm political and economic interference as one of the factors undermining EIA effectiveness in South Africa (**see Annexure 1**). Despite political interference, the fact that the EIA process has contributed significantly to shaping the design layout of the Cape Town Film Studio to mitigate negative impacts shows elements of good EIA practice at a project design phase according to international best practice.

Good scoping is one of the fundamental factors underpinning EIA effectiveness (Biswak and Modak, 1999). The scoping exercise was effective as all the relevant issues were raised, and specialists were identified for studies relevant to the nature of the environment, e.g., a geohydrologist, a freshwater ecologist, and a botanist.

In terms of the public participation process, it is clear that politics plays a crucial role in EIA and public participation. Politics has had effects on the proper dissemination of information in Mfuleni and Eerste River due to different views of the project by political party members (ANC and DA). For example, most members of the ANC supported the development for socio-economic benefits - especially considering that the majority of ANC followers are relatively poorer than their counterparts in other parties. On the other hand, most DA members view the development as a threat to the wetlands ecosystem. Similarly, a high illiteracy rate negatively affected the spread of information. In Mfuleni, only a few educated people knew about the project and its progress, while the majority were not aware at all. The copy of the draft EIR placed in the library without once being utilized, according to the librarian, substantiates the evidence of illiteracy as one of the factors hindering effective public participation in EIA (**see Annexure 1**).

Impact assessment and evaluation saw a polarity on the question of what constitutes sustainable development, which was one of the identified problems affecting EIA effectiveness (**see Annexure 1**). NGOs and some governmental organisations held the same view, which was different from that of the consultants and DEA&DP. The NGOs supported alternative 2 which had more conservation benefits, while the consultants supported alternative 5 which had more socio-economic benefits. These stages reflected the subjectivity of different value systems and beliefs. Similarly the question and answer to effectiveness can also be subjective, as the concept of sustainable development is vague and open to wide interpretations. Sustainable development is achieved by striking a balance between the social, economic and the biophysical environment. However, the difficulty of drawing a line in achieving a balance between these components of the environment was the reason why the project was very controversial. The controversy hinges on the fact that the area is ecologically sensitive yet surrounded by poor communities commanding urgently needed socio-economic upliftment.

Because of the ecological sensitivity of the area, the decision was appealed by WESSA and Cape Nature because the EIA failed to consider site alternatives. The reason for the EIA failure to consider site alternatives could be attributed to a lack of legal clarity on alternative consideration. Different stakeholders interpreted the

requirement to consider alternatives differently, with WESSA arguing that site alternatives should have been considered while the authority argued that it is not mandatory to consider site alternatives. The Minister, after exercising her own discretion gave a go-ahead with some changes to the original authorization, namely, an increased financial offset for wetland management and an (work out percentage increase and mention here) increase in the hectares allocated to conservation were among the environmental authorization modifications and seemed to be an attempt by the Minister (quoted below) to make a rationally justified decision, which is a requirement for effective EIA:

> *'I believe that in making this decision we have found a win-win solution for all parties concerned including the broader interests of all the people in the Western Cape Province. Our Bill of Rights says that we have to prevent pollution and ecological degradation, promote conservation and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development'* (Ministry of Environment, Planning and Economic Development: Provincial Government of the Western Cape, 2006)

A stewardship agreement was proposed during the early stages of the EIA aimed at reducing the amount of wetland degradation during implementation. This agreement involved the proponent and Cape Nature, who had different view during the process. It showed the effectiveness of this stage in achieving inter-subjectivity. This mitigation measure helped the parties to overcome their subjectivity in reaching a compromise. As for mitigation, the Environmental Officer visits the site twice a week in order to ensure that all mitigation measures attached to the environmental authorisation and EMP are complied with, which is crucial in keeping impacts to a minimum.

Summing up the implementation stage, which is generally the weakest in almost all EIA jurisdictions, even in most developed nations, surprisingly in this case study it proved to be different. The community liaison officer was employed to act as a go-between all stakeholders, including the communities surrounding the site. All the EMP and environmental authorization conditions, which were only applicable at this

stage, such as environmental education for the workers onsite, demarcation of no-go areas and others, appeared to be complied with. Mitigation, as a crucial part of implementation, was observed to be serving its purpose.

Overall, despite some problems and shortcoming, such as public participation in one community, Mullein, and the choice of site by the adjudication board, the whole EIA process proved to be effective as evaluated using the evaluation framework, as indicated by the factors below:

- the EIA influenced and shaped the layout design of the project;
- good scoping;
- good reporting;
- systematic analysis of impacts;
- considering public concerns in decision making;
- enhancing positive impacts;
- rational decision making by the Minister of DEA&DP;
- comprehensive assessment of impacts, e.g. social, economic and biophysical, and
- compliance with RoD and EMP conditions.

The aim of EIA is to reduce identified negative impacts. If EIA fails to reduce the environmental impacts, it is therefore a waste of time (Wood 2003). Based on the author's emphasis, the outcome of the EIA for the Cape Town Film Studio paid substantial attention to mitigating negative impacts on the wetlands because of their conservation value. Financial offsets to secure even other wetlands outside the study area and rehabilitation of degraded wetlands indicate efforts to minimize negative impacts on wetlands.

Sustainable development, which also stresses the need for socio-economic upliftment of the poor (Bruntland, 1987) is also realised, as poor communities will get job opportunities in which 2269 people will be employed during the construction stage according to alternative 5 which has wetland preservation benefits, yet lower socio-economic impacts compared to alternatives 3 and 4, after discarding

alternative 2. This choice of alternative 5 reflects the trade-offs and enhancement of positive impacts that are part of EIA. During the operational stage the direct and indirect jobs created will amount to 8000 which certainly indicates significant benefits to the sub-economic region surrounding the study area.

Lack of legal clarity was revealed by the evaluation criterion on the types of alternatives considered. Differing interpretations of the requirement to consider alternatives proved to be one of the factors hindering effectiveness. The lack of legal clarity hindered the effectiveness of this EIA thus substantiating Biswak and Modak's (1999) claim that, for EIA to be effective, it must be regulated by unambiguous regulations. Lack of legal clarity was the reason for the different interpretations on alternatives as well as the appeal. A lack of SEA to complement EIA was also found to negatively affect the effectiveness of the process, which is proposed as a recommendation below.

The first case study objective was to review the effectiveness of the EIA based on each stage and it was achieved for the following reason. Case study problems have been identified, as listed below and these problems are not new but substantiate the identified problems hindering effectiveness in South Africa by the group study of three Masters Students:

- Inadequate monitoring;
- Lack of legal clarity;
- Economic pressure and political intervention;
- Shortage of EIA staff and capacity in different provinces and mainly in the Western Cape;
- No detailed guidelines for weighting social, economic and environmental issues;
- No clarity on what constitutes acceptable losses of biodiversity and disturbances to ecosystems;
- Inadequate monitoring;
- Lack of EIA at the level of planning, and

- Shortage of funds and capacity affect the full participation of NGOs and provincial conservation authorities.

On the other hand, some further problems were revealed by the case study itself which were not identified before and include:

- Differing interpretations of the requirement to consider alternatives;
- No common understanding on defining what constitute sustainable development in regard to striking a balance between socio-economic benefits and biophysical impacts between different parties that advocate for sustainable development, and
- Political organizations with different agendas affect effective public participation at the community level.

The second objective was to recommend measures to address the identified problems in order to improve the effectiveness of EIA in the Western Cape. The researcher has suggested some recommendations some of which are not new while others are. These recommendations as revealed by the case study would help in addressing the gaps, problems and challenges from different EIA stakeholders and certainly improve EIA effectiveness, even nationwide. They are described in the following subsection as it specifically deals with proposed improvements to EIA based on the case study findings.

4.2 Proposed improvements to EIA to address problems identified in Cape Town Film Studio case study

This section proposes solutions for problems revealed by the case study for improving future practice of EIA. Some of these proposed improvements are new and some not.

4.2.1 Strategic Environmental Assessment (SEA)

SEA has the potential to act as a mediating instrument, bridging problem perceptions with technical solutions, steering an assessment to facilitate the integration of environmental values into decision making processes, and influencing decision-makers' capacity of acceptance (Partidário and Vicente, 2006). Because SEA bridges problems of perception, different value systems and beliefs, which are sources of subjectivity in EIA, the issue of what constitutes sustainable development, could be better addressed at the level of land use planning.

SEA could help addressing conflict in balancing biophysical and socio-economic impacts (which was fundamental to the EIA for the Cape Town Film Studio) at the planning level. The findings of the group study on EIA problems in South Africa also identified lack of and EA planning tool as a major problem hindering EIA effectiveness (**see Annexure 1**). SEA could address potential environmental conflict associated with large scale projects seeking to ensure socio-economic upliftment in a sensitive area. The reasons outlined below indicate the importance of SEA and its potential to address similar problems from occurring in future EIA practice. SEA seeks to (Partidário and Vicente, 2006):

- Strike a balance between developmental, social-economic and biophysical implications of broad developmental options;
- Pro-actively inform development proposals;
- Set the criteria of environmental quality or limits of acceptable change;
- Adapt to the planning and sectoral development cycle, as a flexible and adaptable tool;
- Ensure strategic planning which begins with the conceptualisation of the plan or programme;
- Be part of a tiered approach to environmental assessment and management;
- Define the scope of an SEA within the wider context of environmental processes;
- Provide a development framework in the context of alternative scenarios, and
- Include the concepts of precaution and continuous improvement.

The need for SEA is supported by EAPs from other consulting firms in the Western Cape, such as SRK consulting, where the consultant acknowledged that decisions are made in a 'vacuum' because there is no SEA (Dalgliesh, 2008, pers.com). SEA would help in striking a balance, identifying sensitive environments at a strategic level for more effective EIA. According to Hill (2004: p. 44) '*there is a most common perspective in the EA literature that environmental benefits can be realised from a forward link between SEA and EIA'.*

4.2.2 Environmental Management Framework

An Environmental Management Framework (EMF) is a tool designed to address sensitive environments nationally based on the provincial Environmental Potential Atlases (ENPATs), to identify areas of environmental sensitivity (outside of protected areas) and to provide environmental management parameters for these areas based on their sensitivity to development (Mangold and Tladi, 2002). EMFs can be developed for each Province individually and at various spatial scales.

An EMF has some similar attribute to SEA in that it identifies ecologically sensitive areas at a planning level. The establishment of EMFs indicates recognition by a competent authority of the need to complement EIA at a policy level for improving EIA effectiveness.

In EMFs, environmental management parameters are presented in the form of prescriptions and guidelines that reflect the standards, norms or values set by society for the management of specific spatially defined environmental features. Some of these parameters are generic and can be applied in different parts of the country while others may be unique due to the limited occurrence of the features (Mangold and Tladi, 2002).

An EMF is a decision support tool for environmental authorities in the Western Cape as well as in all the provinces. It is typically used in the scoping process of Integrated Environmental Management to identify the important environmental issues at a specific locality. It will also 'red flag' issues of critical importance. In addition, it

provides a list of environmental management parameters applicable for any chosen locality. The management parameters will determine the extent of the required investigations and direct the establishment of minimum conditions under which an activity can be allowed in a specific environmental setting. Incoming activity proposals can be tested against the requirements of the environmental management parameters for completeness and flaws (Mangold and Tladi, 2002). EMFs will help strike a balance in addressing biophysical and socio-economic impacts at the planning level and thereby act as guidelines in weighting socio-economic impacts against biophysical impacts. Project EIAs guided by EMFs would be more effective in addressing impacts. In addition, as the environmental parameters will be known, EIA may be exempted or carried out with less intensive requirements. Environmental conflicts as a result will be reduced because of the proactive environmental guidelines that recognize ecological sensitivities before any development.

4.4.3 Clear legal requirements on site alternatives and strengthening monitoring

With respect to the factors affecting the effectiveness of EIA from an authority perspective, Biswak and Modak (1999) point that EIA must be promulgated by law in unambiguous regulations, leaving no misunderstanding about the interpretation of the obligation during the processes. The ambiguity of regulation has been seen in this study particularly in regard to the consideration of alternatives. Lack of clarity on how, what, to what extent and where alternatives should be considered was seen as the culprit in the controversy of this project. There was a differing interpretation on alternatives between WESSA and the competent authority. The main cause of the appeal was a lack of consideration of site alternatives while the official approved the project as site layout alternatives were considered.

The regulations must be specific and leave no room for different interpretation by involved parties. It must be explicit, articulate and not ambiguous to avoid differing interpretation by stakeholders, for example, on whether site alternatives are an obligatory requirement or not in EIA. As a result, differing interpretations by stakeholders will be prevented. According to WESSA and the competent authority

problems related to site alternatives are common in EIA projects, lending support to the argument that this issue needs to be urgently addressed.

Differing interpretations of the requirement to consider site alternative was not identified among the EIA problems affecting EIA in South Africa (**see Annexure 1**). It therefore proves to be one of the significant findings revealed by this case study and its resolution will surely improve EIA practice in future, not only in the Western Cape, but nationwide.

The case study revealed that there was no monitoring by the competent authority, which was also found to be a general problem in EIA in South Africa due to the insufficient number of staff and also as it is not a legal requirement. According to Wood (2003: p. 256) '*monitoring is an acknowledged weakness in South Africa although some monitoring can be accomplished under other legislative or voluntary means*'. In order to resolve monitoring problems, authority-based EIA staff members should be given better benefits to improve staff retention and prevent turnover. Also lessons from developed countries such as Canada, which has an effective EIA system due to, among other factors, a legally-binding monitoring provision, need to be taken. Monitoring would pick up the inadequacies involved in 'sweet heart' reports by EAPs, in identifying the actual impacts as they occur during project implementation (Fuggle, 2007, pers. com).

4.2.4 Public participation

According to one of the NEMA principles, '*participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation*' (Section (4)(f)). In order to improve public participation the following should be added to the current public participation requirements:

- EIR copies should be printed in local languages as recommended by the competent authority. Where a certain group is predominant, their local

language should be emphasized so that even those with little education can read documentation placed in local library;

- Other techniques such as vernacular radio stations and television knows no literacy boundaries and can be effective in reaching illiterates, and
- Accompanying the above should be a need for a social scientist to form part of any EIA process so as to effectively manage and monitor public participation, using their specialist expertise.

Case studies may provide lessons that are applicable more broadly (Leedy and Ormord, 1998). Accordingly, the following lessons from the case study of the EIA for Cape Town Film Studio can help in understanding EIA better and improving practice:

- The political landscape and level of illiteracy in communities affects public consultation in EIA. Where the illiteracy rate is high, the public are hardly accessed without public meetings, interviews and other public participation techniques;
- Reasonable tradeoffs are part of EIA, e.g., reaching a compromise between conservation and socio-economic benefits;
- Subjectivity is inevitable in the evaluation of impacts;
- EIA should shape the design where possible to mitigate negative impacts;
- NGOs are effective on holding the EIA process more accountable;
- The concept of sustainable development is open to various interpretations;
- Political interference affect the integrity of the EIA;
- EIA is not effective in addressing cumulative impacts;
- Proper mitigation measures are capable of reducing negative impacts, and
- SEA and EMF could help in striking a balance between socio-economic and biophysical impacts as decision support tools at the planning level.

Last but not least, EIA is a useful tool that should not hinder development, but rather strikes a balance between the socio-economic development of proposals and the need for conservation of natural resources. If EIA is used with integrity, socio-economic development that respects nature is possible, and harmony between humans and nature can be achieved in sharing this wonderful planet, Earth.

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ANNEXURES

Annexure 1: EIA effectiveness and problems in South Africa

Annexure 2: legal and institutional arrangements for EIA in the Western Cape, South Africa

ANNEXURE 1

EIA Effectiveness and problems in South Africa

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Mini Dissertation Presented for Partial Fulfilment of the Requirements for the Degree of Master of Philosophy in Environmental Management

Department of Environmental and Geographical Science
Faculty of science

UNIVERSITY OF CAPE TOWN

SEPTEMBER 2008

Declaration

1. We know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

2. We have used the **Harvard convention** for citation and referencing. Each contribution to, and quotation in, this **Essay** from the work(s) of other people has been attributed, and has been cited and referenced.

3. This **Annexure** is our own work.

4. We have not allowed, and will not allow, anyone to copy our work with the intention of passing it off as his or her own work.

On behalf of the group,

Signature _____

Date _____

Abbreviations

CBO	Community Based Organization
CMC	Cape Metropolitan Council
CMA	Cape Metropolitan Area
IEM	Integrated Environmental Management
ECA	Environmental Conservation Act
SABC	South African Broadcasting Corporation
DEAT	Department of Environmental Affairs and Tourism
EAPs	Environmental Assessment Practitioners
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMP	Environmental Management Plan
I&AP	Interested and Affected Parties
IOPP	International Organisation for Public Participation
NEAS	National Environmental Authorizations System
NEMA	National Environmental Management Act
NEPA	National Environmental Policy Act
NGO	Non Governmental Organization
ENPATs	Environmental Potentials Atlases
TOR	Terms of Reference
USA	United States of America
WESSA	Wildlife and Environment Society of South Africa
WCD	World Commission on Dams
IAIA	International Association for Impact Assessment
EIS	Environmental Impact Statement
ROD	Record of Decision
SEA	Strategic Environmental Assessment
UK	United Kingdom

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1. Introduction

Sustainable development refers to the development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundtland, 1987). The idea of managing environment for sustainable development and integrating it into planning was emphasized in the 1992 United Nations Conference on Environment and Development at Rio which established the principle of integrating sustainable development considerations into Strategic Development Planning and Policy (George and Kirkipatrick, 2007). Therefore environmental assessment has been recognised as a collective term for forms of appraisal that address the environmental consequences of policies, programmes, plans and projects (Cashmore, 2007).

This section provides the aspects of Environmental Impact Assessment (EIA) as a process, its objectives and describes the concept of EIA effectiveness. It also discusses strengths and weaknesses of EIA in South Africa.

1.1 Context of Environmental Impact assessment

Several authors have written much on EIA and its advancement. Most of the literature is from the developed countries.

EIA is one of the major tools relied upon by governments and societies worldwide to help them to achieve more effective environmental management (Nitz and Holland, 2000). This process is applicable to the project EIA and took its origin from the United State of America (USA) National Environment Policy Act in 1970 (Morgan, 1998). It has been defined as the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of proposed projects and physical activities, and from the information this process provides decision is taken by a relevant authority (Sadler, 1996; Morgan, 1998). The fundamental question is to know the reason why development activities necessitate an EIA. The EIA process

informs the decision maker and the general public about the consequences of environmental impacts of a given developmental activities thus the decision can be taken with the go or no go option to the proposed development implementation. The Department of Environmental Affairs and Tourism ([DEAT], 2004a) explains the purpose of an EIA which is to provide decision-makers – be they governmental authorities, the project proponent or financial institutions – with adequate and appropriate information about the potential positive and negative impacts of a proposed development, associated management actions in order to make an informed decision whether or not to approve, proceed with or finance the development.

EIA has been promoted as an important tool, through which society is seeking to achieve sustainability, by directing development away from unsustainable alternatives (Hill, 2004).

1.2 Aims and objectives of EIA

EIA contributes in the following:

- Informs developers as early as possible about possible environmental implications of a proposed development, thus plans and designs can then be modified to avoid adverse effects and maximize potential benefits (Morgan, 1998).

- Provides information on which a decision taker can rely for purposes of licenses and permits. Before a development is implemented there are many things to consider. These include pollution control, the use of the resources, quality of life considerations and others depending on the emphasis of particular legislation. EIA is thus trying to assess the impact of development. It can be seen as a fine-tuning of a proposal mechanism to a particular environment, to avoid the worst excesses of development (Morgan, 1998).

- Informs the planning process. EIA does not only scrutinise individual projects, it can also be useful to inform the planning process itself. The EIA information can be useful to modify a plan, implementation, or development control process. It is a process which aids in achieving sustainable development since it enables a country to foresee the negative and positive impacts of human activity on the environment. It is an aid towards sustainable development.

Hill (2004, citing Brown and Hill,1995, Sadler 1996, Lawrence, 1997a, Brown and Thérivel. 2000 and Sadler, 2001) enumerates categories of environmental assessment objectives as follows:

Environmental planning and design objectives

EIA contributes to the integration of projects into an environmental and social setting, through better planning and siting. It contributes to the identification of alternatives and mitigation measures with an aim to minimise or avoid negative environmental and social impacts during proposal implementation. It also contributes to the restoration of a disturbed environment and human community.

Decision making objectives

EIA contributes to the justification of a proposal, involves the stakeholders in proposal design, provides information on large scale and cumulative impacts of a proposal and contributes to the management of conflicts. This process combines sustainability dimensions into decision making.

Societal objectives

EIA enhances environmental understanding and develops the environmental ethics of the participants in the EIA process; it empowers individuals and communities participating in EIA and reduces the cost that the proponents impose on society.

EIA is an anticipatory, participatory, integrative environmental management tool which has the ultimate objective of providing decision-makers with an

indication of the likely consequences of their decisions relating to new projects (Wood, 2003).

2. EIA Procedure in South Africa

At its beginning, EIA has been structured to collect useful information and to respond to its aims. Therefore, each step has been given its irreplaceable place for its contribution to the overall aims.

2.1 Screening

In South Africa, the classification of the proposal is undertaken by the proponent, or appointed consultant, in consultation with the relevant authority. A list of scheduled activities for which compliance with the EIA Regulations is mandatory has been produced. On application, the relevant authority may grant exemption from these Regulations if, in their opinion, the proposed activity would not have substantial detrimental impacts.

Projects or activities not listed in this schedule may also require an EIA in terms of the National Environmental Management Act (NEMA) if it is felt that they may result in significant adverse impacts. In practice, however, the list of scheduled activities effectively pre-empts the screening process and, to date, no EIAs have been called for in terms of NEMA. In some instances where the activity is not included in the EIA Regulations (such as mining and mining-related activities), and is likely to have significant environmental impacts, DEAT has not required an EIA in addition to authorization by other government agencies (Brownlie and Wynberg, 2001, p. 20).

2.2 Scoping

Scoping is a stage in the EIA process following screening in EIA process and it involves the identification of the key issues of concern at an early stage in the planning process (Morrison-Saunders and Arts, 2004). Parties to be consulted are identified such as communities, local authorities and statutory agencies, Interested and Affected Parties (I&AP) and others. Scoping carried

out at an early stage may contribute to the site selection and identify possible alternatives. All I&AP are expected to get involved and these may include among others the proponent, planning or environmental agencies and the general public. The expected results from scoping include determining the scope, depth and terms of reference to be addressed within the EIA process (Morrison-Saunders and Arts, 2004).

There are many things to be identified during scoping; among others the environmental study baseline condition is done at this stage and should include, present and the possible future state of the environment.

2.3 Impact Analysis

During this stage issues identified through scoping are analysed. The identification of the impact magnitude and/or significance and other dimensions of identified change in the environment with or without the project, based on the baseline information gathered during the scoping stage are done during impact analysis (Morgan, 1998; Sadler, 1996). The impacts identified may be direct, indirect or cumulative, short or long run, adverse or beneficial, reversible or irreversible, etc. During this phase, there is a need to determine the ways in which impacts are to be avoided, mitigated or compensated. Mitigation consists of measures to avoid, reduce and if possible to remedy severe environmental effects (Morrisson-Saunders and Arts, 2004).

2.4 Reporting and EIA Report review

The information collected from the environmental analysis is presented in the form of a report which is submitted to the competent authority together with an Environmental Management Plan (EMP) (DEAT, 2006). This plan describes the processes that an organization will follow to maximize its compliance and minimize harm to the environment (DEAT, 2006). The EIA report is submitted to the environmental authorities and the public for their information and to obtain their comments. Review has been described by DEAT (2004) as a mechanism to judge the adequacy of the process and the quality of EIA report

with reference to legal conformity and good practice. Its main purpose is to check whether information is sufficient for decision making. On the basis of an Environmental Impact Report (EIR), a decision is taken and it either allows the proponent to carry on with the development or rejects the application.

2.5 Post decision implementation and control

The post-decision stage as opposed to pre-decision stages incorporates the early stages of EIA and is generally known as EIA follow-up. It is simply defined as the monitoring and evaluation of the impacts of a project for management of and communication about the environmental performance of the project (Morrison-Saunders and Arts, 2004).

According to Morrison-Saunders and Arts, (2004) citing Arts *et al.* (2001), EIA follow-up comprises four elements. Monitoring is one of them and consists of the collection of data and comparison with standards and predictions. During the pre-decision phase, baseline monitoring would be done to measure the initial state of environmental indicators. In the post decision stages, monitoring is concerned with compliance and the effect of that decision.

Evaluation is another element of follow-up and consists of the appraisal of the conformance with standards, expectations as well as the environmental performance of the activity. In general, this activity is concerned with evaluating the situations arising after a particular decision is made.

Within the follow up stage, there is a need to make decisions and undertake appropriate actions to face the issues arising from monitoring and evaluation activities, which is generally regarded as the ongoing management.

At this level comes a need to inform the stakeholders about the results of follow-up. Monitoring is important as it provides the feedback on EIA process and on project implementation. This highlights the need of accountability.

The importance of follow up has been highlighted by the International Association of Impact Assessment (1999) as this stage works to:

- ensure the implementation of terms and conditions of approval;
- monitor the impact of development;
- monitor the effectiveness of mitigation measures;
- strengthen future EIA applications;
- undertake environmental audit and evaluation.

EIA process follows different steps from pre-feasibility to follow-up. Figure 1 demonstrates the process.

Annexure 1

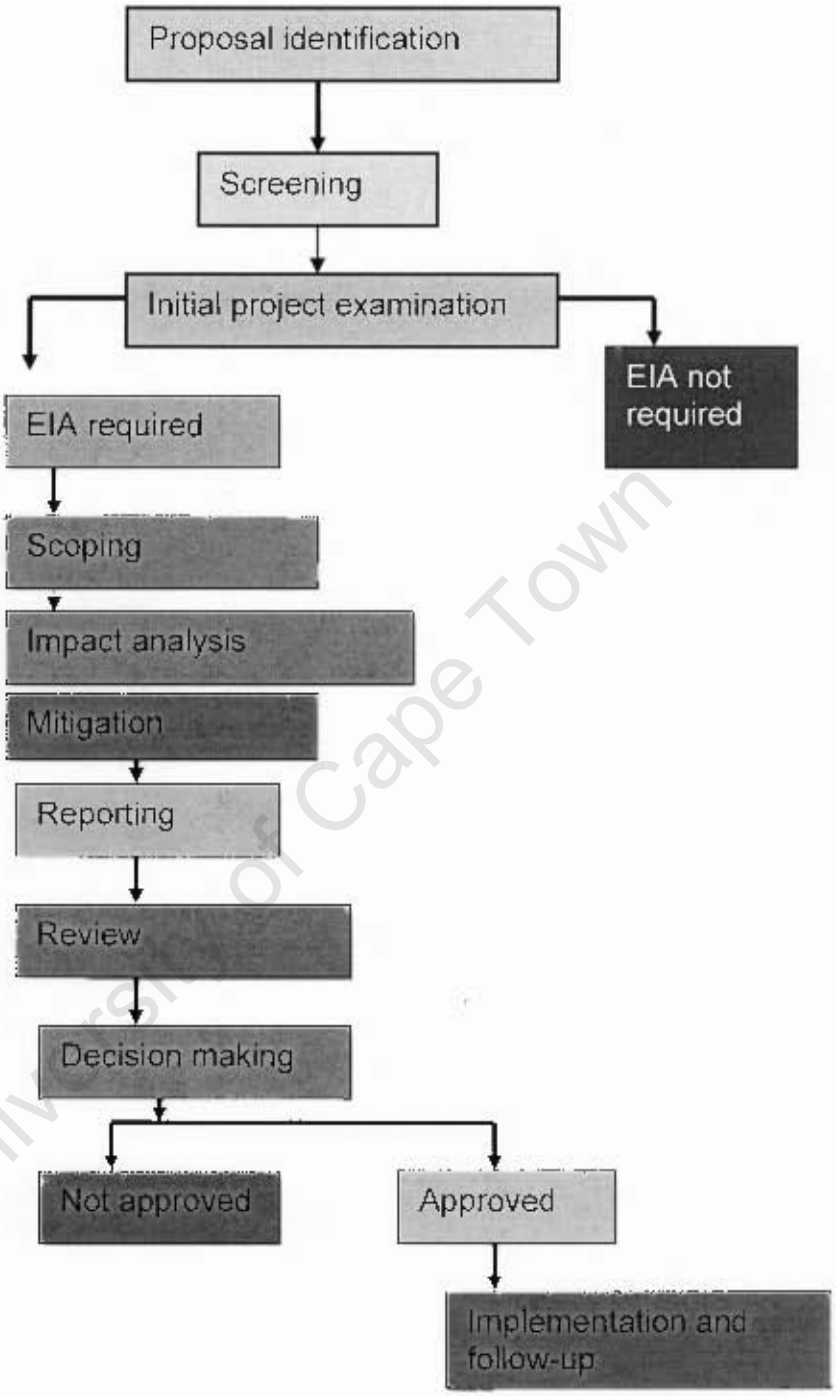

Figure 1: EIA process

(adapted from Sadler, 1996)

3. Public participation

The process of public participation has gained increasing attention to the assessment of environmental impacts of developmental proposal. It refers to a process in which public concerns, needs and values on a proposed development get considered prior to decision making (Creighton, 2005).

As part of quality of decisions, it requires the participation of all stakeholders. This participation is not limited to the act of providing information, but there should be an interaction between the organisation making a decision and people who want to participate (Creighton, 2005). To be more effective, this process calls for a proper organisation. Creighton (2005) citing the International Organisation for Public Participation (IOPP) (n.d.) enumerates the values for the practice of public participation as follows:

- The public should have a say in decisions about actions that have impact on their life;
- This process includes allowance for public's concerns to influence the decision;
- The public participation process communicates the interests and meets the process needs of all participants;
- This process seeks out and facilitates the involvement of those potentially affected;
- In this process participants define how they participate;
- Participants get needed information to participate meaningfully.

Creighton (2005) describes public participation as a continuum as at the beginning, public should get informed of the project as they cannot participate effectively unless they get complete information on which to base their judgement. They get listened to, and engaged in problem solving, and this process ends by development of a consensus. Respectively this continuum is made of four main actions including to inform the public, to listen to the public, to engage in problem solving and develop agreements.

Beyond the improvement of decision quality, the same author enumerates other benefits of public participation. These include minimization of cost and delay as the implementation of a unilateral decision may take long or even lapse or be revised as it may become tied up in controversy, delays or litigation. Other benefits are to prevent worst-case confrontations, maintaining credibility and legitimacy and increased ease of implementation.

4. The concept of effectiveness

Before describing the South African EIA system, it is very important to discuss briefly the concept of effectiveness. The world has been facing changes, and nowadays environmental problems persist such as climate change, natural calamities, and poverty and its consequences. In advancing efforts to build sustainable development, environmental tools have been thought to bring a considerable contribution to an appropriate development and EIA is a formal process used in many countries and by different organizations to help decision makers to consider the environmental impacts of a proposed development before taking a decision.

According to DEAT (2004) to take a decision, information regarding the following items must be provided:

- Project proposal description;
- Baseline environmental conditions;
- Impact identification, quantification and evaluation;
- Alternatives identification and evaluation;
- Mitigation measures description.

At this level, EIA review ensures that the information is adequate, communicative enough to the stakeholders and for relevant authorities to take a decision.

4.1 Defining EIA effectiveness

Different terminologies have been associated with the study of effectiveness. Some of the commonly use terms are review, evaluation, assessment or even post project analysis.

Effectiveness has been defined as "*whether something works well as intended and meets the purpose(s) for which it was designed*" (Sadler, 1996: p. 37). Effective EIA alters the nature of decisions or of the actions implemented to reduce their environmental costs and render them more sustainable. If it fails to do this, EIA is a waste of time and money (Wood, 2003).

Wood (2003) points out that an EIA system is judged not so much on whether it can be viewed as effective but on the factors that explain its effectiveness and on which evaluation criteria are appropriate in judging that effectiveness and how it can be improved.

According to Glasson *et al.* (1999), effective EIA must be an aid to the decision making and the developer, and help to achieve sustainable development. This process should provide decision makers with information on the likely environmental effects of their actions (Wood, 2003). The EIA process should also be an opportunity for a proponent to find out more options to maximize his/her benefits from project planning to implementation, without compromising the well being and interests of other stakeholders. Therefore, there is a need for EIA to be done properly to avoid inadequate decisions. In this regard in various countries, laws and guidelines have been provided to guide all stakeholders to fulfil their responsibility in a process of taking a better decision and building a sustainable development. Lee *et al.*, (1994) state that, to be effective, EIA must achieve environmental protection and be cost effective.

Sadler (1996) suggests some ingredients for the effective application of EIA:

- appropriate timing in initiating the assessment;
- Clear and specific directions;
- Quality information and products;
- Receptivity of decision makers and
- Others.

EIA is important tool for giving effect to sustainable development objectives in planning and decision making (Sadler, 1996). The achievement of EIA outcomes depends on different factors namely the integrity of EIA, degree of policy concerns with sustainable development and others. The idea of integrating sustainable development dimension was raised from the 1992 United Nations Conference on Environment and Development, the Rio Conference, which established the principle of integrating sustainable development concerns into planning (George and Kirkpatrick, 2007). Due to many factors which influence the EIA procedure and achievement of its aims, Sadler (1996) suggests a four step examination of environmental assessment effectiveness. These are the analysis of policy, the contribution of EIA to development decision making, application of EIA methods, procedures and components, and guidelines for sound practice. EIA review is a practice of improving the quality of EIA and can be regarded as bringing EIA to meet its effectiveness. Sadler (1996) defines EIA review as a problem solving opportunity, as during EIA review, gaps and weaknesses of the process can be resolved before decision making.

4.2 Purpose of EIA effectiveness evaluation

It is important to examine the scientific and administrative aspects of the EIA process (Munro *et al.*, 1986). The reason behind this is a growing concern about the effectiveness and efficiency of EIA at the technical and administrative levels about its role in the broader processes of planning and undertaking development (Devuyst, n.d). The author feels that in order to measure the EIA effectiveness, first of all, the goals of EIA should be understood. First, as an instrument which is introduced to ensure that

preventive environmental policy is considered during the decision making process. Secondly, EIA has to improve the environmental sensitivity of society. Thirdly, it has to improve the open and transparent character of decision making and make it open to external inspection. Thus, the evaluation criteria can be developed based on these goals.

Although Annandale (2001) explains that the issue of examining or evaluating the EIA process has been done for different intentions, Sadler (1996) feels that the purpose of EIA effectiveness review is problem solving rather than fault finding. By looking at the effectiveness, one would seek to find ways of improving its stated goals (Devuyst , n.d). The author continues by explaining that the purpose of evaluation research is to measure the effects of a policy, program or procedure against the goals it set out to accomplish as a means of contributing to subsequent decision-making about improving the situation in the future.

An evaluation framework for assessing the case studies is shown in Table 1.

Evaluation framework

1. **Project Design**

To what extent has the EIA contributed to project design or redesign?

Aspects to consider
• EIA influence on the project planning and design process

2. **Scoping**

To what extent did scoping achieve its purpose in focusing the EIA on relevant issues and alternatives?

Aspects to consider
• Provision of baseline information
• Identification of, and contact with, I&APs
• Identification of key impacts
• Identification of reasonable alternatives
• Identification of specialist studies needed and preparation of the TOR for these studies

- Timelines for EIA process including approval
- Establishment of criteria and methods to be used for impact prediction, assessment and evaluation

3. Identification of Alternatives

To what extent, and how, were alternatives identified and considered?

Aspects to consider

- Timeline in identification of alternatives
- Extent of stakeholder involvement in the identification of alternatives
- Type of alternatives considered: location alternatives, activity alternatives, design or layout alternatives, technology alternatives to be used in the activity/ process, demand alternatives, input alternatives, routing alternatives, scale alternatives, and no-go option

4. Impact Assessment

How was impact assessment undertaken and did this meet the requirements of good practice?

Aspects to consider

- Description of positive and negative impacts for reasonable alternatives
- Comprehensive impacts – e.g consideration of social, economic and biophysical impacts
- Cumulative impacts considered
- Systematic analysis of impacts (e.g. competent authority, I&APs as part of impact assessment process)
- Methodology used for impact assessment
- Preparation of Draft Environmental Impact Report (EIR) for circulation and comment

5. Impact Evaluation

How was the significance of impacts and alternatives evaluated and did this meet the requirements of good practice?

Aspects to consider

- Evaluation methodology
- Systematic evaluation
- I&AP involvement

6. Mitigation of Impacts

How was monitoring of impact did the EIA deal with mitigation measures?

Aspects to consider
• Impact significance after mitigation/residual impacts • Types of mitigation measures • Enhancing positive impacts • Dealing with unexpected impacts • Local communities involvement in identification of mitigation measures

7. Environmental Impact Report (EIR) and Decision Making

How and to what extent did the EIA contribute to decision making?

Aspects to consider
• Reporting • Consideration of public concerns • Peer review • Objectivity in decision making • Conditions of approval in authorisation (Record of Decision) • Appeal

8. Implementation and Follow Up

How was impact assessment undertaken and did this meet the requirements of good practice?

Aspects to consider
• Compliance and enforcement to conditions attached to ROD • Environmental Management Plans • Lessons learnt (to improve EIA practice and amend regulations where necessary)

Table 1. Evaluation framework

4.3 Rationale in evaluating EIA effectiveness

From the initiation of EIA in 1970, until today, there have been important changes to EIA systems. As long as the world changes there is a need to upgrade EIA processes and activities to meet expected outcomes.

It is important to know to what degree EIA contributes to the improvement of decision making. What is working well, constraints and their cause. Although EIA has been used as a tool expected to achieve sustainable development, to arrive at this end there is a need of continuously monitoring EIA performance. These are some of the questions one can ask explaining the needs of evaluating EIA procedure and outcomes to improve its effectiveness.

The study of EIA effectiveness aims to improve the EIA outcomes. Wood (2003) provides an important comparative review of seven different national EIA systems, and mentions the way EIA is falling short of its potential. Different stakeholders have various experiences on EIA that is why there is a need to involve as many as different EIA stakeholders to the evaluation of EIA performance. The information or experience from EIA should be regarded as assuring sustainability not limiting on impact minimization.

5. Lessons from the developed countries

The discussion on EIA cannot be complete without drawing some lessons from the developed countries. Some of the countries which have good lessons include the USA, Finland, Netherlands, and Canada.

5.1 United States of America

EIA originated in the USA. According to Wood (2003) citing Wandesforde-smith and Kerbavaz, (1988), EIA at the federal government level works. It influences project selection and design and most importantly mitigates the predicted environmental impacts. Wood (2003) citing Taylor (1984) explains that EIA works effectively because it was an administrative reform in tune with the time and had supportive forces both inside and outside the government. This circumstances ensure effective implementation of EIA, and the changes in organizational behaviour associated with it.

Several projects have been cancelled as a result of the adverse impacts revealed in preparing an Environmental Impact Statement (EIS) and the

majority of projects are modified as a result of the assessed impacts. The modification of the projects which is about impact mitigation, appears to be acknowledged as one of the main justification of the process. To a large extent, EIA has been assimilated into federal decision making processes and is meeting many (but not all) goals of the objectives of its proponents (Wood, 2003). As far as the effectiveness question is concerned in the USA EIA system, it can be concluded according to Sadler (1995, p. 6) that it is certainly effective. Sadler on the same page says '*EIA effectiveness can be judged by how successful the process is in performing the purpose(s) it was established to serve*'. Some of the National Environmental Policy Act's (NEPA) success is that it was directed at government agencies, particularly those responsible for the undertaking of development activities of potential environmental significance, rather than at private developers. However the USA EIA system meets 10 of the 14 evaluation criteria (Wood, 2003) and partially meets three for EISs. One of its major weaknesses is lack of monitoring provision (Wood, 2003, p. 254). Because the system is operated by federal agencies, the general level of expertise is high but agencies often do not assign their most effective end efficient personnel to NEPA tasks (Wood, 2003, p. 357-359 citing Offringa, 1997).

5.2 Finland

One of the primary challenges of the Finnish EIA system concerns the quality assurance of the EIS (Wood, 2003). The quality of the statement has consequences in the decision-making process and it is one of the key elements of an effective EIA. The directive does not prescribe how assessments should be completed, or at what level of detail their outcomes should be reported. In addition, there is no provision in the directive for checking the completeness of the information that has been submitted. Some of the problems facing the Finland EIA system include:

- Lack of linkage between EIA and decision-making;
- Lack of efficient access to a judicial procedure to challenge the quality and completeness of an EIS;

- Difficulties in permitting process where in certain permit procedures, environmental consideration is so limited that only a minor part of the EIA can be taken into account.

EIA legislation in Finland does not guarantee that the assessment results filter into decision-making.

5.3 Netherlands

The EIA system in the Netherlands is recognized as one of the most effective and strong EIA systems. It is generally acknowledged as having a sophisticated system of environmental controls, regarded by many observers as the most effective in Europe (Wood, 2003). According to Sadler (1995) the strength of the Dutch EIA system lies in the following:-

- Law and applicable to all jurisdictions;
- Flexibility which allows for innovation;
- Provides for independent review;
- Guidelines to establish a framework for review;
- Produces an adequate set of alternatives, including a requirement to consider the most environmentally friendly option, and
- Results in the application of mitigation measures.

5.4 Canada

Canadian EIA system is distinguishable, for its provision on monitoring. The Canadian Environmental Assessment Act contains an extensive impact monitoring (follow-up) which is however not effective because of poor implementation (Wood, 2003).

6. Case Studies in the EIA effectiveness study

Sources of information for evaluation of EIA effectiveness are not usually readily available, and considerable investment of time and effort is required to purpose-build approaches (Sadler, 1996). However, several authors have come up with different ways of evaluating the EIA systems. These authors

include Annandale (2001), (Wood, 2003), Androulidakis *et al* (2006), Sandham and Pretorius (2008), Baker and McLelland (2003) and Duthie (2001).

Annandale (2001) explains that the interactive dealing with the effectiveness of EIA is still young. He notes that most of the research is on the outcomes as people want to know whether the public and private time and money invested in the EIA process would lead to improved environmental quality. The bias takes away the focus on the organizational conditions for success. Baker and McLelland (2003) note that measuring of environmental assessment policy effectiveness gained attention in the mid-1980. However, there is still no realizable quantification of the EIA effectiveness, something that creates some difficulties in reaching the overall judgment about any EIA system (Wood, 2003).

In the evaluation of EIA criteria, Annandale (2001) explains that the starting point is to look at Emmelin (1998) who has given four categories of evaluation criteria. The author continues to explain that the criteria form a two dimensional format. The first format is the difference between EIA systems structures and the implementation structure. This means differentiating evaluation of the EIA by the administrative process on one hand and by outcomes on the actual environment. The second dimension is the difference between theory and practice.

Using these two dimensions, Emmelin (1998) has come up with four ways of evaluating EIA. The first one is looking at it from the administrative point of view. This is what Wood (2003) has done in the comparative review. In his evaluation of EIA system performance in eight countries, Wood (2003) has noted that a number of factors could influence the quality of the reports. This factor includes,

- The nature of the legal requirements for EIA;
- The experience of the proponent;
- The consultant, and the competent authority;

- The existence of scoping, the length and cost of the EIA, and
- The nature and size of projects.

Following this, Annandale applies the Wood criteria to the Republic of Maldives, which is a small developing country. Though not all of the Wood's criteria would be useful, the positive factors which have contributed to Maldavian EIA system could be added to the Wood's.

While evaluating the EIA system in Greece, Androulidakis *et al* (2006) have developed a checklist which is divided into eight sections. The first one addresses the status of the environment where the project is to be developed. Attention is paid more on the natural environment in areas related to like characteristics such as climatic, bioclimatic, morphological, geological, and tectonic. The second is a detailed description of the project life cycle. This checklist includes the stages of project planning, construction, operation, decommissioning and rehabilitation. The third is the identification and prediction of impacts. The others are mitigation, alternatives, risk management, documentation and reference to public participation.

Here in South Africa, Sandham and Pretorius (2007) reviewed the quality of EIA reports in the North West province of South Africa. They focused on 28 EIRs and using the Lee and Colley review criteria, they measured the weaknesses in the reports as per the international standards .They reckoned that the revised EIA Regulations of 3rd July 2006 in South Africa was an effort in trying to improve the EIA effectiveness.

Secondly, one would consider the practical implementation of EIA. This would involve the use of case study analysis. The specific aim would be to measure the effectiveness of EIA. A good example would be the international study of effectiveness by Sadler (1996). The theme of the International Study on EIA effectiveness is '*Evaluating Practice to Improve Performance'.* A generic criterion otherwise referred to as a triangle has been set by Sadler in the international study can be best applied in the framework in a study of EIA effectiveness. This criterion looks at the main distinctions, in terms of the

purpose and yardsticks of evaluation (Sadler, 1995) which are looked in form of questions. The questions asked are:

Procedural

Does the EA process conform to established provisions and principles?

Substantive: -

does the EA process achieve the objective set like supporting well informed decision making and resulting in environmental protection? And

Transactive: -

does the EA process deliver these outcomes at least cost in the minimum time possible, i.e., is it effective and efficient?

In analyzing the Sadler's effectiveness triangle while evaluating the effectiveness of Columbia's Environmental Assessment, Baker *et al.* (2003) expounded the five components against which a framework can be assessed.

Practice: -

checking the application of policy and procedures. For example, in public participation - was the public given enough notice as prescribed in the procedures? It would also measure how workable is the present procedure.

Performance: -

involves seeking to check the objectives met after the application of the practice. 'When achieved objectives are compared to established objectives for the policy, the result is a measure of substantive efficacy. As a result of the measurement the necessary adjustments can be made to meet the targeted objectives in future'.

Overall policy effectiveness:-

when all the above components work well, then the policy is said to be working. Understanding the functioning of EIA: - An attempt to understand the functioning of EIA, and the quality of the process and documents in the context of professional culture. An example is the EIA in South Africa, a

review of provincial environmental impact assessment administrative capacity in South Africa.

Duthie (2001) looks at the regulations governing Environmental Impact Assessment and how they have been administered against the provincial capacity in all the South African provinces. Among the problems cited for effective implementation of the Regulations are staff shortages, high number of applications which cause ineffective screening, inexperienced staff, and poor remuneration. There is also little follow up enforcement and compliance monitoring.

Another good example in South Africa is an evaluation framework, which was developed by de Villiers, Brownlie *et al.* (2000) for reviewing the EIA reports. de Villiers Brownlie Associates were appointed by the Environmental management Department of the Planning, Environment and Housing Directorate of the Cape Metropolitan Council (CMC) to prepare guidelines for reviewing the EIA projects in, or affecting the Cape Metropolitan Area (CMA). The guidelines were prepared in such a way that the decision maker would be able to make the right judgment while reviewing the EIA. The reviewer has a central role to play in improving the consistency of EIA review. Nine areas have been considered in the review guideline:

- Ethics;
- Adequacy of information;
- Clarity of the report;
- Due consideration of alternatives;
- Description of project and affected environment;
- Legislation, policies and plans;
- Scoping and participation by interested and affected parties;
- Assessment and evaluation of impacts and Mitigation, and
- Enhancement, management and monitoring.

7. EIA in South Africa

EIA has been practiced on a non-mandatory (voluntary) basis as part of integrated environmental management (IEM) since the mid-1970s (Du Pisan and Sandham *et al.,* 2006 citing Wood, 1999 and Burger 2004). EIA became a legal requirement for a wide range of projects in September 1997 in terms of sections 21, 22 and 26 of the Environmental Conservation Act (ECA) No. 73 of 1989 (Republic of South Africa, 1989). The EIA regulations which provide the relevant authority with considerable discretion are proving to be somewhat ambiguous in application (Wood, 2003).

Looking back in history, one of the problems that show a weakness in the EIA system is exemplified by a case in the Western Cape. In February 2005, SABC news reported that the Cape high court suspended the construction of the nuclear reactor near Cape Town. This was in response to the Earthlife Africa's court challenge in the previous year which needed more time to make their views. In view of this, the DEAT spokesperson expressed the department's concern about the EIA process then which it believed was too cumbersome (Louw, 2005).

Owing to the above mentioned problem, the process of reviewing the Environmental Impact Assessment system of South Africa began in 2000 under the DEAT and the relevant provincial environmental authorities. This review resulted in EIA regulations promulgated in 1998 in April 2006 in terms of the NEMA.

The change made to the EIA in the ECA to the one in the NEMA appears to be a major improvement in environmental management in South Africa. DEAT was concerned in ensuring that both efficiency and effectiveness were not compromised. The Promulgation of the NEMA EIA regulations and especially with their implementation in July 2006 had some problems as the authorities and the stakeholders have identified some gaps. Amendments to the Act has been identified with a Bill introduced in Parliament during July 2007.

The South African Broadcasting Corporation (SABC) news quoted the Environmental Minister on the new regulations as saying that processing of EIA applications has been made "*quicker, simpler and better*" (Van Schalkwyk, 2006). The new regulations were promulgated and took effect in 2006, they makes some fundamental changes to EIA. The changes include delivering within 14 days an administrative action, 45 days for review and decision making on minor reports and between 60 to 105 days for review and decision making on complex reports.

According to minutes of the department, the revised EIA system provided South Africa with four elements:-

- Development of regulations appropriate to the South African context;
- Building and maintaining adequate capacity to implement the regulations;
- Establishing a regulated Environmental Assessment Practitioners (EAP) industry; and
- Developing and implementing a framework of tools and systems to supplement the EIA system.

Some of the expected benefits of the changes include:

- A focus on expediting pending applications;
- Developing strategic spatial systems;
- Building human resource capacity;
- Developing of support tools and capacity.

However, DEAT has noted that there is still much work to be done in an effort to improve the system. This includes what the department calls streamlining the targets, further rationalization of the need for EIA and improvement of governance. However, the department explains that the changes would result from the amendment of both NEMA and the 2006 EIA regulations. According to DEAT it was important to review the EIA system which would need to address the inadequacies of the system established as a result of the 1997

EIA Regulations whilst building on the positive achievements and consequences of EIA.

The changes were made due to inconsistency in the interpretation and inadequate definitions. There was also too many unnecessary processes, inflexibility in procedural requirements and lack of adequate capacity and resources.

The other inadequacies that came before NEMA in the 1997 Regulations and South African EIA system in general were:-

- Lack of legislative clarity results in inconsistent interpretation and application of the Regulations amongst different authorities;
- The wide definition of activities included in the schedules to the regulations resulted in too many unnecessary EIA processes. This in turn overloads administrative systems creating bottlenecks. It also resulted in delays in development that is unlikely to have substantial negative impacts on the environment and should not have been subject to an assessment process in the first place;
- Inflexibility in procedural requirements resulted in cumbersome processes that did not necessarily add any value;
- Public participation requirements were inadequately defined resulting in the abusing of the system by both applicants and interested and affected parties;
- The absence of a mechanism to regulate Environmental Assessment Practitioners resulted in poor/ inadequate information often produced at exorbitant costs; and
- Lack of adequate capacity and resources in some environmental authorities resulting in delays, questionable decisions and vulnerability to legal challenges.

However despite the above problems, the EIA system which came into being as a result of 1997 EIA Regulations had its advantages. These advantages are:-

- Resulted in more sustainable human settlement- through the EIA process, improved low cost housing developments as environmental hazards such as the presence of wetlands, high levels of pollution; unsafe geotechnical conditions and flood plains have been pro-actively identified and accommodated in design and lay-out alternatives;
- Resulted in an increased awareness of environmental rights and obligations; the impact of activities on the environment and the collective responsibility to ensure environmental sustainability;
- Ensured that the voice of affected communities is heard and taken into consideration in developmental processes, project design and decision making;
- Ensured that for both industrial developments and social infrastructure, the adverse impacts on human health and well-being due to environmental degradation or unsafe environmental conditions are proactively identified and prevented or managed.

Among the issues the new EIA regulations were meant to address include:

- Coming up with EIA Regulations that are appropriate to South African situation. The new regulations are meant to make the EIA process much simpler, quicker and cheaper.
- They enable the environmental authorities to easily implement the new regulations. The authorities are then enabled to deal with the projects with ease while seeking to avoid creating backlog. At the same time, they are able to come up with tools like Environmental Management Frameworks, sector policies and guidelines and mapping of sensitive areas.
- They are meant to come with regulated EAPs; there is the development of the EAPs association which is the process of formation. This association will be appointed by registration authority to help in ensuring that the provisions of the NEMA are followed. The self regulation of EAPs is to ensure accountability through the code of conduct, incentives and penalties and maintaining the quality of Environmental reports.

The current Regulations came up with tools and systems to supplement and complement an EIA system. The previous EIA regulations were seen to be working in isolation. The new Regulations are complimented with some tools from the Integrated Environment Management (IEM) toolkit which are more strategic in nature.

One of the successes of the new Regulations has been seen with the quicker processing of the applications at 95% of the EIA applications (Kula, 2008, pers. comm.)

Other measures that have been introduced to make EIA more effective are the introduction of decision support tools, the National Environmental Authorizations System (NEAS) which is being rolled out to provinces after its completion. It is a web based system which enables the registration and tracking of the applications. In addition, it provides some information which helps the authorities analyze and assess the efficiency of EIA administration.

7.1 History of EIA in South Africa

South African EIA dates to the mid-1970s, and was done voluntarily as a part of IEM from 1989 onward (Wood, 1999). IEM resulted from South Africa's Council for the Environment meeting in 1984 when the council wanted ways to ensure the integration of environmental concerns into development planning. IEM was recommended as a solution to the growing awareness of the complex, and often negative, environmental effects of development projects and policies (DEAT, 1992).

South Africa has a proud history of EIA, despite an historical lack of awareness of the need to consider environmental issues and a subsequent lack of political will to implement controls (Sowman *et al.*, 1995).

In 1997 EIA became a legal requirement in terms of section 21, 22, and 26 of ECA no 73 of 1989. Until today, EIA regulations continue to function under NEMA of 1998 and a number of subsequent amendments.

In South Africa, the establishment of EIA procedural requirements and the way it have been constituted is a result of many discussions, interviews with Governmental officials, consultants and Non Governmental Organisation (NGO) (Wood, 1999).

The development of EIA came in 1989 when South African legislation recognized specifically for development to be sustainable, some regulatory mechanisms were needed. EIA Regulations (R1182 and R 1183) of September 1997 in terms of ECA 1989 gave the procedures as to how the reports were supposed to be prepared.

White Paper on environmental management policy, released in 1998 explained the development of EIA in South Africa. The white paper was only a coordinating tool on the environmental matters but had no substantive provisions. A compulsory requirement for EIA was initiated through draft legislation and published for comments in 1994 and then amended in 1997. Thus, EIA in South Africa was made mandatory.
In terms of administration EIA has been delegated to the provinces. There are challenges in any EIA systems and South Africa is no exception. Duthie (2001) mentions the problems that EIA is subject to in different countries and in South Africa they include among others, staff shortages, qualified but inexperienced staff, exclusive public participation, capacity constraints, deficiencies of EIA legislation, lack of a higher level planning EA to complement EIA, poor salary of government staff which causes the loss of experienced staff, and a very weak follow up enforcement and compliance monitoring.

However international scholars and South African strong research institutions have been significantly crucial on giving inputs that evaluate EIA for improving effectiveness. Amongst others Wood (1999) and Brownlie and Wynberg (2001) explicated the deficiencies and strengths within EIA process in South Africa. All these deficiencies and strengths are as follows. The sections below explains the problems that EIA in South Africa face.

7.2 EIA Problems in South Africa

In South Africa a number of problems that hinder and affect of the effectiveness of EIA are identified and among others they include:

7.2.1 Economic pressure and political intervention

Political views and interests are major constraints in the effectiveness of EIA in South Africa (Wood, 2003, p 84 citing Sowman *at el.*, 1995). There is a lack of political will which is illustrated by the following comment made by a cabinet member "the housing provision cannot wait for butterfly-studies" (Macleod, 2006, p. 11) the later statement was made by a Minister of Housing, it is a clear picture of the attitude towards EIA as a hurdle in the development agenda. The Minister further showed dissatisfaction in the environmental world that the construction industry housing delivery would no longer be "held hostage by butterfly eggs" (Wray, 2006). EIA is described by the politicians as a "double-edged sword: both useful and obstructive and as a protectionist tools in the hands of frenzied environmentalist eager to block anything that comes their way" (Fakir, 2006). As a result of political pressure, decision to grant authorization of a proposed action or development is sometimes made by overwhelmed provincial staff, rather than through comprehensive consideration of the full range of factors internationally recognized as good EIA practice (Wood, 1999). Giving empirical evidence on this, the Record of Decision (ROD) for the Green Point stadium project was influenced by politics and economic pressure. No thorough alternatives of other stadiums such as Newlands and Athlone were executed.

7.2.2 Institutional fragmentation

Institutional fragmentation is one of the principal causes of reduced efficiency and effectiveness of EIA. The lack of co-ordination of environmental laws at different levels of government is an old problem inherited from the apartheid regime; while environmental management embraces a spectrum of concerns

which by nature is cross sectoral, government administration is divided into narrow functional areas (Brownlie and Wynberg 2001, p. 15 citing Glazewski 2000). Different government institutions have different mandates which sometimes contradict each other. Lack of cooperation and coordination between government institutions is a serious challenge standing the way for EIA effectiveness despite the attempts by the NEMA EIA regulations to address this problem. The environment knows no sectors and environmental management too should be crosscutting. Departmental coordination as enshrined on NEMA should be occurring everywhere.

7.2.3 Capacity shortage and constraints

Siphungu *et al.*, (2005) in the case study findings of the Limpopo explains that from the practitioners' side, EAP as EIA consultants have a natural sciences background, and that EIA information are more quantitative nature. The roots of environmental management in ecological issues are still exerting a "green" bias with a resultant emphasis on the biophysical aspects of the environment, often at the cost of human aspects (Siphugu *et al.,* 2005). Watham (1999) reached a similar conclusion that ecological baseline information was most common in EIAs surveyed in the United Kingdom (UK). The findings on this information are in broad agreement with the review of EIA procedural compliance in the North West Province (Sandham *et al.*, 2002).

Effective implementation of EIA Regulations at provincial level has been limited in a number of instances by a lack of formal EIA experience, combined with an unfunded mandate for this responsibility. Most provincial authorities implementing the Regulations have insufficient experience to review EIAs adequately and this is believed to be a significant constraint. Many EAPs gain experience as fresh graduates in government departments responsible for implementing EA legislation, and then move into private practice or the private sector. This means that those tasked to review and make decisions on proposed projects are often less competent than the proponents' consultants; a situation which is problematic and could undermine soundness of decision-making (Brownlie and Wynberg, 2001, p.18). DEAT is well aware of these

constraints and had taken an initiative by 2007 to promote the study of environmental modules in tertiary institutions nationwide.

7.2.4 Inadequate biodiversity impact assessment

With specific regard to biodiversity in EIA, a national case study which examined 22 EIAs and 35 specialist studies from 7 EIAs concluded that biodiversity is not adequately addressed in EIAs in South Africa (Brownlie and Wynberg, 2001, p. 24 citing Le Maitre and Gelderblom, 1998). These authors further reports that EIA often fails to integrate various specialist studies; and poor integration and coordination of specialist studies contributes to inadequate assessment of biodiversity impacts and their significance

Moreover, lack of understanding of biodiversity hampers the effectiveness of integrating biodiversity considerations in EIA in South Africa. Developers often regard biodiversity as academic and esoteric, not as something real or pertinent, and there is resistance to funding related studies as part of EIA. This situation is aggravated by lack of clarity on acceptable levels of disturbance of ecosystems and loss of biodiversity (interpretation of the NEMA principles arguably allows for a gradual erosion of natural capital given the statement that, '*where loss of biodiversity and disturbance of ecosystems can't be avoided, they should be minimized and remedied*' (Brownlie and Wynberg, 2001).

7.2.5 Terms of Reference for specialist studies

Terms of Reference (TOR) forming part of EIAs in South Africa are frequently absent, inadequate or limited in focus. TOR for biodiversity studies in EIAs are largely limited to listing Red Data Book species (the "rare and endangered" species).There is little instruction to specialists on why the study is being commissioned, what questions it needs to answer, how the results of the study are to be used and how information is to be presented (Brownlie and Wynberg, 2001, p. 22 citing Raimondo, 1997, pers. comm.). Specialist TORs are too general and ambiguously phrased, and are not sufficiently explicit as

to specific tasks to be undertaken or aspects to be addressed. Such TORs additionally emphasize compositional aspects of biodiversity and, to a lesser extent, the structural aspects. The functional component of biodiversity is often ignored. Time and budget constraints often dictate TORs, with inadequate attention being given to the details of biodiversity assessment, for instance the need for seasonal sampling (Brownlie & Wynberg, 2001, p. 22).

There is a general need for improving the guidelines within which expert studies are carried out. This problem is widely cited in the South African EIA literature and therefore reflects the significance of the TOR problems and the need for revisiting the existing guidelines in order to improve EIA effectiveness in directing specialist studies.

7.2.7 Mitigation

Although measures to mitigate potential impacts are legally binding when stipulated as conditions of authorization in terms of the EIA Regulations, lack of follow-up to ensure effective implementation undermine the effectiveness of environmental assessment (Brownlie and Wynberg, 2001, p. 19).

Inadequate follow-up affects the integrity of EIA as the primary purpose is to minimize developmental adverse impacts as opposed to stopping development. So if impacts are not minimized then EIA certainly becomes a pro forma for license acquisition. Wood (2003, p. xvi) concurs with the statement as he states that, "if EIA fails to reduce the environmental impacts it is therefore a waste of time".

Certainly mitigation is one of the major components in EIA as it is where identified negative impacts are minimized. Therefore legally binding measures to mitigate negative impacts that are not enforced turn out to be just ideas or just paperwork.

7.2.8 Limited time and budgets.

Time and budgets for EIAs are typically limited and this results in insufficient time being allocated for specialist studies. Money for biological expertise or studies is especially limited for small projects (Brownlie and Wynberg, 2001).

7.2.9 Poor EIA review

The principal weaknesses of EIA in South Africa relate to poor EIA report review, impact monitoring, EIA system monitoring and lack SEA (Brownlie & Wynberg 2001 p 18 citing Wood 1999). Sandham and Pretorius (2007, p. 13) in their review of EIA in the North West Province corroborate these weaknesses, that despite some important aspects of an EIR not being thoroughly addressed, the EIAs were all approved and therefore the question arises as to the contribution made to environmental protection and sustainable development. EIA quality review is one of the quality control functions contributing to EIA effectiveness within the EIA system (Sandham *et al.,* 2007).

On the other hand, the South African EIA 1997 Regulations were silent about EIA report review, beyond dictating that the relevant authorities consider the application after it has received an EIR that complies with the regulations. A number of guidelines for reviewing EIAs have been produced in South Africa: The DEAT's Review Guideline (Volume 4 of the IEM Guideline Series, 1992) and the guideline document for implementing the EIA Regulations (1998), the Western Cape's Department of Environmental and Cultural Affairs and Sport's Environmental Impact Unit's Guidelines for Scoping Report Review (1999), and the Gauteng Department of Agriculture, Conservation and Environment's Draft EIA Review Manual (1998). None of these documents, however, provides detailed guidelines on weighing economic and social impacts other than superficial guidance on the review of biodiversity assessment. The Guidelines for implementing the EIA Regulations provide considerable detail on the criteria for reviewing EIA applications. However, no mention is made of

biodiversity impacts or of evaluating the significance of impacts on biodiversity. The degree to which impacts are irreversible, impacts occurring in "ecologically sensitive areas" or in "rare undisturbed areas" are, however, given as likely to be of "key concern" (Brownie and Wynberg, 2001, p. 26). The occurring of development on an ecological sensitive areas is one of the major costing weaknesses of EIA practice in South Africa because it is through review of EIRs that decision making is done for a project implementation or gaps are detected for further consideration by the applicant. Thus if the review is inadequate then the entire EIA system is likewise ineffective too. If an ROD is given for implementation of a particularly environmentally unacceptable project, it follows that sustainable development will not be achieved, thus frustrating the goal of EIA.

7.2.10 Lack of EIA at the level of planning

The South African EIA system applies to most and private environmentally significant projects, but not currently to programmes, plans and policies. The term EIA is not defined in the EIA Regulations (Wood, 1999, p. 122 citing DEAT, 1997). However NEMA recognizes the need for EA at planning level. Also the Minister of Environmental Affairs and Tourism has emphasized that other tools at planning level to complement EIA are required.

7.2.11 Disparities in economic situations and opportunities between provinces

Disparities in economic situations and opportunities not only affect demand for services, but also have a strong impact on the personnel capacity available to provincial government to administer the EIA regulations. The retention of staff becomes a challenge from those provinces with limited opportunities. Many South African adults with tertiary qualification reside in Gauteng and Western Cape provinces. Consequently, the provinces with limited resources and opportunities suffer from 'brain drain' (Stevens, 2002, p. 10)

7.2.12 Corruption

Government officials in positions of influence place pressure on competent authorities to give authorization for certain high profile projects. In return for expedient authorization these high-ranking officials would receive remuneration of some form from the companies involved. For example there have been raids (Stevens, 2002) on the offices of the Department of Minerals and Energy in Limpopo province by the Scorpions (South Africans anti-corruption unit), to investigate charges of bribes and corruption.

7.2.13 Regulatory shortcomings of EIA methods

Details of methods used for prediction and evaluation of impact significance are often not provided, although the guidance clearly states the standard method of determining significance in terms of the nature, extent, duration, intensity and probability of the impact. Similarly, it is explicitly required that where possible, predictions of impact magnitude should be expressed in measurable quantities. These two issues reflect the regulatory requirements for EIA in South Africa, and it is a matter of concern that there is relatively poor performance in such a key area (Sandham *et al.*, 2003).

7.3 Problems at each stage in the South African EIA process

The group study research of current performance study also focused on problems at each stage in the South African EIA process. The reason was to investigate strengths and gaps of the EIA processes based on each stage which were to be compared with the findings of the case study analysis.

7.3.1 Screening

In South Africa, the classification of the proposal is undertaken by the proponent, or appointed consultant, in consultation with the relevant authority. A list of scheduled activities for which compliance with the EIA Regulations is mandatory has been produced. On application, the relevant authority may grant exemption from these Regulations if, in their opinion, the proposed activity would not have substantial detrimental impacts.

Projects or activities not listed in this schedule may also require an EIA in terms of the NEMA if it is felt that they may result in significant adverse impacts. In practice, however, the list of scheduled activities effectively pre-empts the screening process and, to date, no EIAs have been called for in terms of NEMA. In some instances where the activity is not included in the EIA Regulations (such as mining and mining-related activities), and is likely to have significant environmental impacts, DEAT has not required an EIA in addition to authorisation by other government agencies (Brownlie and Wynberg, 2001, p. 20).

7.3.2 Scoping

Scoping is generally carried out satisfactorily. Scoping in South Africa has become predominantly issues-based, relying heavily on the public, authorities, specialists and interest groups to identify potentially significant impacts. That is, the scope and scale of studies contributing to the EIA are largely defined through such consultation. This "issues-based" approach in South Africa has some weakness, in that it places some onus on interested and affected parties (I&APs) to identify and raise issues. Since the public, NGOs, and Community Based Organizations (CBOs) as well as many specialists don't fully understand biodiversity and the impacts of development on it, biodiversity issues are often not identified (Brownlie and Wynberg, 2001 citing Le Maitre *et al.*, 1997). These shortcomings are particularly pertinent where development is proposed in relatively remote areas where I&APs are few and

far between, areas not previously targeted by specialist studies or surveys, and in areas where NGO groupings with an interest in biodiversity are either not well-represented or are overstretched.

Given the strength of a number of NGOs dealing with biodiversity issues such as the Botanical Society of South Africa, Wildlife and Environment Society of South Africa (WESSA), many issues relating to biodiversity are identified, particularly near major towns and cities. Shortages of funds and capacity are, however, likely to curtail inputs by both NGOs and provincial conservation authorities in future and could lead to biodiversity issues being overlooked.
Scoping often focuses on a particular development site, rather than taking a more holistic perspective in the context of a wider area. Relevant experts often from research institutions do not typically respond to general calls for input to scoping and focused efforts are required to draw them into a process (Brownlie and Wynberg, 2001, p. 20).

Scoping has historically been a strong feature of EIA in South Africa. Such heavy emphasis is placed on this stage that the EIA regulations permit the relevant authority to request a plan of study for scoping. As a result the scoping stage has often involved elements that belong to the EIA report preparation phase elsewhere. Many scoping reports have not only identified impacts but incorporated the evaluation of impacts and included specialist studies.

Research in the North West province by academics at Potchefstroom University indicated that specialist studies were used in 34 per cent of scoping reports. This research also revealed that 50 percent of the scoping reports contained no reference to the consideration of alternatives and in 10 percent of cases the only alternative to the project proposal to be considered was the no-project option (Wood, 2003). Scoping has not always resulted in the elimination of irrelevant impacts. In a study of 28 EIAs undertaken between 1971 and 1986, it was found that scoping was documented in nearly 80 per cent of the cases but only in four cases was this comprehensive and inclusive (Mafune *et al.*, 1997). Consultants often provide more information than

required in scoping and decision making. In other words scoping replaces full EIA.

Despite scoping being conducted general well in South Africa the following shortcomings reflect the need for scoping improvement

- Scoping focuses on a particular development site
- Poor biodiversity knowledge by the public and CBOs lead to ineffective participation during scoping
- Heavy emphasis placed on Scoping and replaces full EIA
- Shortage of funds and capacity affect the fully participation of NGOs and provincial conservation authorities

7.3.3 Impact Assessment

According to Brownlie and Wynberg, (2001, p. 89) citing Wood (1999), South Africa has a relatively large and competent EA consultancy sector. However, consultants have in some cases been appointed too late, with insufficient budgets or inappropriate expertise.

On occasion, specialists having little knowledge of an area are brought in to carry out specialist' studies, rather than using people with local knowledge. This often led to questionable findings. Where there has been little endorsement of the choice of, and TOR for a particular specialist to give input to an EIA by key I&AP, particularly where the proposed activity is contentious, the findings of such studies are frequently disputed.

Most assessors lack appreciation of the spatial components of processes and do not consider the landscape in its entirety. Frequently consultants have little or no understanding of ecological patterns or processes important for biodiversity conservation. The EAP needs a good grasp of the big picture and this is not always the case (Brownlie and Wynberg, 2001 citing Cowling, 1997, pers. comm.).

7.3.4 Mitigation

Mitigation, monitoring and management assurance rather academic and unrealistic recommendations for mitigating adverse impacts are seldom fully implemented. Improved evaluations of the likelihood of implementation are needed, as well as assurances or guarantees if these goals are not attained (Brownlie and Wynberg 2001, p. 24).

7.3.5 Evaluation of impacts

Assigning significance to biodiversity is contentious. Biodiversity Assessments have been conducted in the absence of national and provincial biodiversity conservation plans, clear targets for protection and/or defined limits of acceptable change in different veld types or ecosystems, so it is difficult to contextualize and evaluate the potential significance of impacts (Brownlie and Wynberg, 2001, p. 28).

7.3.6 Decision-Making

The guidelines for implementing the EIA Regulations give no detail on the factors which need to be considered in reaching a decision or about the relative weighting of different social, economic, and environmental issues. NEMA through its environmental management principles provides some guidance on decision-making. However, no clarity is given as to what would constitute acceptable losses of biodiversity and disturbance to ecosystems, or to ways in which social and/or economic gains can be weighed up against such losses; the NEMA principles could in fact be seen to allow for a continual erosion of biodiversity.

South Africa's history of discrimination and inequity, combined with high levels of poverty and unemployment, has resulted in a situation whereby the potential socioeconomic benefits of a proposed development are frequently

seen to outweigh possible irreversible negative impacts on biodiversity. Weighing up socio-economic versus biodiversity considerations is problematic. For example: What is the loss of a species worth? Do species differ in conservation value? The basis for weighing up such issues is neither explicit nor transparent, and there are no clear criteria which are consistently applied. The outcome of decision-making is thus heavily influenced by diverse societal values, particularly in a society such as that in South Africa, which is multi-cultural with widely divergent priorities. Given the absence of clear guidelines regarding appropriate and acceptable trade-offs in the interests of sustainability, biodiversity issues often emerge as "losers" in decision-making. Political factors, too, may have a substantial influence on decision-making even when biodiversity impacts could be significant (Brownlie and Wynberg 2001, p. 28).

In some projects decision making has been made by overwhelmed provincial staff on narrow nature conservation or other grounds, rather than a full range of factors normally considered in internationally recognized good EIA practice (Wood, 1999, p. 237 citing Granger, 1998).

Review and decision making are related. As EIA review is done for decision making, this is the cornerstone for effective EIA.

In summing up the decision making stage, it is clear that decision is made in incomprehensive guidelines leaving gaps in the process for examples,

- There are no guidelines details for weighting social, economic and environmental issues
- No clarity of what constitutes acceptable losses of biodiversity and disturbances to ecosystem.

7.3.7 Implementation

The 1997 EIA Regulations focus exclusively on the role of EIA in decision-making and provide little guidance on post-decision implementation of

projects, including management, monitoring and auditing. Inadequate follow up and monitoring of environmental impacts in the construction, operation and decommissioning stages of a project is seen to be one of the most significant shortcomings of EIA in South Africa. In practice, authorization of projects is often conditional on preparation and approval of an environmental management plan or programme. However, the checking and enforcement of implementation of such plans and programmes is rare. There is a need to formalize environmental audits after project implementation. The need for and commitment to such audits is often lacking (Brownlie and Wynberg, 2001, p 28 citing Porter and Raimondo, 1997, pers. comm.).

7.3.8. Follow up

As has already been touched under different headings, inadequate follow up is one of the general problems in the EIA industry, even in the jurisdictions in the developed world such as Netherlands and others, and not unique to South Africa. Once the Record of Decision has been given developers continue with development without monitoring and auditing to ensure that the predicted impacts are kept to a minimum level. The monitoring and compliance unit means in South Africa are not enough to fulfil the task. More resources should be invested for monitoring and compliance. The site visit by the government official during EIA is carried out randomly and certain projects are not visited due to shortage of staff (Kula, 2008, pers.comm.). On the other hand consultants sometime produce a 'sweetheart report' that is irrelevant to the actual project and are able to get away with it (Fuggle, 2007, pers. Comm.). So effective site visits by the government for regular checks will discourage 'sweetheart reports'.

7.4 Other EIA problems based on case studies

7.4.1 Public participation is still exclusive

Despite strong emphasis in EIA in South Africa on public participation, there is a severe limitation upon the participation of disadvantage sections of society in the country. The reasons being *inter alia*, illiteracy, the legacy of apartheid, the use of technical language, the holding of formal public meetings in an unfamiliar language, and suspicion of consultants, relevant authorities and certain developers (Wood, 2003, p. 297 citing Goudie and Kilian, 1996; Burger and McCallum, 1997; Khan, 1998). Very few inputs on social impacts are made at public participation meetings, revealing the almost complete lack of interest in the EIA process amongst certain publics. The low interest levels in public participation can be attributed to poverty, low levels of education, and the fact that the environmental agenda is seen in some circles as an obstruction to wealth creation and poverty eradication (Sandham *et al.*, 2006 citing Kruger and Chapman, 2005). Public participation is one of the major processes for any effective EIA as it is able to earn legitimacy for the project as all stakeholders have a chance to air the concerns or interests. According to Sandham *et al.*, (2006) citing Harris *et al.*, (2003) effective public participation is regarded as a key to more valid social assessment, without which it would be meaningless

There is a problem of inadequate public participation. This was seen in the nuclear waste smelter plant at Pelindaba where some interested groups voiced their concern over short period of time that was allocated for comments on the EIA. According to Gilbert (2007) from Earth Life Africa, an environmental lobby group, the group came to know of the deadline for pubic comments one day before it closed. The group said this was a distortion of a public participation process and did not provide them with a fair chance for all of them to interact in the process.

7.4.2 Environmental Assessment Practitioners

The requirement that EAP be independent of the developer in SA is another constraint on improving the EIR quality. In reality, the developer pays the practitioner and some practitioners may lack objectivity, failing to live up to their professional ethics. If this requirement would be removed, the EIA practitioner would be less constrained to find any favor with the developer and be capable of greater degree of objectivity (Sandham *et al.*, 2007, p.12).

7.4.3 EIA as a mere formality

EIA in South Africa is carried out predominantly to satisfy legal requirements. That is, rather than being carried out to optimize the proposed development and ensure that it meets the objectives of sustainable development, proponents are asking 'must I do an EIA?' The environmental impact assessment is seen as a tool for rubber stamping the decision instead of being used to make decisions. According to King (2007), the implementation of South Africa's environmental rights is a public relation exercise.

7.4.4 Delaying the development

In 2007, Eskom saw the delay in environmental approvals as a hindrance to its service provision. It cited the outstanding record of decision on the Medupi coal-fired power station in Limpopo (near Lephalale) and project Gas 1 in Western Cape (in Atlantis). The delays were also cited in the environmental appeals. However, the company decided to continue with its construction plans awaiting the environmental approvals. Later the minutes of the DEAT meeting informed that Eskom had retracted its claim that EIA had delayed the Medupi Power Station and that there was no delay (City of Cape Town, 2007).

In this regard, one of the reasons advanced for the delay in the authorization is the large number of EIAs creating a backlog.

7.5 EIA strengths in South Africa

Despite the EIA deficiencies discussed above, the South African EIA system has some strength on which the need for more effective EIA can be built and achieved. EIA legislation is one of them.

Chapter two of the South African Constitution Act, entitled *Bill of rights* ,in its section 24 titled Environment and which states that:
Everyone has the right,

- To an environment that is not harmful to their heath or wellbeing;
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures ;that prevent pollution and ecological degradation, promote conservation and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development.

The Constitution of South Africa provides for the management of the environment by both the provincial government and local government. However, the relevant authority for managing EIAs is the provincial government. Chapter 7 entitled local government in section 152 states:
"Both the national and provincial environment departments have a role of setting specific regulatory norms and standards for the management of environmental impacts".

NEMA also emphasizes the need of EIA at a planning level. This is a strong legal basis for which Strategic Environmental Assessment (SEA) can be widely carried out. Also different provincial governments are required to carry out geographic studies for Environmental Management Frameworks (EMFs) which are seen as one of the solutions for improving EIA practice (Fakir, 2006). EMF is a tool designed to address sensitive environments nationally based on the provincial Environmental Potential Atlases (ENPATs), to identify areas of environmental sensitivity (outside of protected areas) and to provide

environmental management parameters for these areas based on their sensitivity to development (Mangold and Tladi, 2002). According to Wood (2003) the scoping process is conducted fairly well and due to the strength of scoping in EIA practice in South Africa many of the EIAs are "beefed-up" scoping reports with comprehensive information. EIA in South Africa undoubtedly has its strengths and has legal recognition unlike the situation in many African countries which do not have EIA legislation or it is rather weak.

South Africa is credited for good policies in seeking to protect the environment. This is seen from the protective legislation. An example is given of large dams which do not produce the anticipated electricity capacity or control floods as envisaged. This has been supported by the World Commission on Dams (WCD) which has found the large dams to have advance effects on environment which constitutes political decisions on a project in an information vacuum (King, 2007). He cites the case where a provincial minister stated that the proposed monorail between Soweto and Johannesburg was going to start in September of 2007 and just needed an EIA. Thus, a decision to construct the monorail had already been reached before the EIA was conducted. The EIA was then seen to be only there to help mitigate adverse effects.

8. Conclusion

In countries where EIA is adopted, it has been used as a tool to ensure sustainable development. In South Africa, the EIA system is one of the best in Africa. It has strengths in some of its components and processes that may even be better than those of some developed countries' EIA systems such as strong public participation, legal standing for court appeal, to mention a few. These are crucial for EIA effectiveness in any systems. However as it is a common factor in developing countries where poverty reduction, economic development are national priorities dominating the development agenda, EIA in South Africa is considered as a hurdle to fast tracking development to achieve these goals. Also there are regulatory gaps that undermine EIA effectiveness in South Africa at large: these include lack of systematic monitoring, capacity shortages, no coverage of GMOs, vague TORs, overlapping of scoping to EIA, lack of environmental awareness, exclusive public participation, poor understanding of biodiversity, lack of the enforceable accreditation body for EAP and others.

Although EIA has sustainability aspects, it relies on legal and institutional arrangements put in the place by the different tiers of government to provide expected outcomes. To illustrate, some of the legal and institutional arrangements for EIA in the Western Cape are described in Annexure 2.

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ANNEXURE 2

Legal and Institutional Arrangements for EIA in the Western Cape, South Africa

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Mini dissertation Presented in Partial Fulfilment of the Requirements of the Degree of Master of Philosophy in Environmental Management

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Faculty of Science

UNIVERSITY OF CAPE TOWN

SEPTEMBER 2008

Declaration

1. We know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

2. We have used the **Harvard convention** for citation and referencing. Each contribution to, and quotation in, this **Annexure 2** from the work(s) of other people has been attributed, and has been cited and referenced.

3. This **Annexure** is our own work.

4. We have not allowed, and will not allow, anyone to copy our work with the intention of passing it off as his or her own work.

On behalf of the group,

Signature _____

Date _____

List of Tables

1.1 Introduction

Institutions may be defined by formal and informal rules. In South Africa, institutions are considered to be of a great importance for Environmental Impact Assessment (EIA) implementation. In the context of the Western Cape Province, the Department of Environmental Affairs and Development Planning (DEA&DP) is one of the factors underlying the effectiveness of EIA. It serves to define the behaviour and roles of different stakeholders in EIA practice.

DEA&DP has environmental management policies of which their main goals are to build an effective and harmonized institutional framework; integrated legislative system and institutional capacity (Republic of South Africa, 1997). Based on the assumption that EIA practices can be improved through a better understanding of the arrangements provided for its procedure and achievement, this Annexure describes the institutional context for EIA in South Africa and particularly in the Western Cape province. Therefore, the aspects such as EIA legislation and administration are highlighted below.

1.2 National legislation for EIA

The EIA process is guided by many principles. Amongst others, public participation, transparency, certainty, accountability, integrity, cost effectiveness, flexibility, practicality, and adopting a precautionary stance (Sadler, 1999). In addition EIA as a tool was designed to advance sustainable development (Bruntland, 1987). Adequate national legislation is necessary to implement and enforce the above principles. In South Africa, there are many laws providing for EIA. The following are some of the most relevant acts to EIA practice.

1.2.1 Constitutional Law / Act No 108 of 1996

This Constitution is the basis of laws including the acts pertaining to the Environment. In its second chapter known as the Bill of Rights, Section 24, the

Constitution provides for environmental rights for all South African citizens. It states that "*everyone has the right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development*" (Republic of South Africa, 1996: section 24).

The need for co-operative governance is highlighted under this Act. The national, provincial and local government must ensure that these rights are protected (Western Cape Department of Environmental Affairs & Development Planning, 2006). EIA is one of the major environmental tools to ensure the realization of environmental sustainability as promoted by the Constitution and EIA is a mandatory process in South African. Following the constitution as the supreme law there are Acts that are specific to environmental management and protection. They have been enacted to provide rules and regulations that help to translate this right into actions.

1.2.2 Environmental Conservation Act (ECA) No 73 of 1989

A number of sections of this Act relate directly to EIA and its implementation. Part 5 of this Act headed "Control of activities which may have detrimental effect on environment" defines the role of EIA. This part has three main sections.

The first section deals with the identification of activities having potential negative impacts on environment. For this process the Minister may identify activities which have detrimental effect on the environment generally or in respect of certain areas (Section 21 (1)).

The second section of the act is on the prohibition of undertaking of identified activities. In this Act there is a prohibition on undertaking the activities identified

as having a detrimental effect on environment except by virtue of a written authorization. The authorization is issued by a competent authority on the basis of reports concerning the impacts of proposed activities on the environment. In this regard, the competent authority may at his or her discretion refuse or grant authorization for a proposed activity, or an alternative proposed activity, on particular conditions, if any, as he/she may deem necessary. If a condition imposed is not being complied with, the Minister, any competent authority or any local authority or officer may withdraw the authorization in respect of which such condition was imposed, after at least 30 days' written notice was given to the person concerned (Section 22, 1- 4).

The third section deals with limited development areas. In this regard, a competent authority may by notice in the Official Gazette declare any area defined by him or her, as a limited development area. In this area "no person shall undertake developmental activity prohibited by the competent authority unless he or she has on application been authorized thereto" by the competent authority (Section 23, 1-3).

The following aspects describe the problems inherent in the ECA (1989) EIA regulations (Western Cape Department of Environmental Affairs & Development Planning, 2006):

- containing too many small scale applications;
- excluding some activities with significant impacts;
- having lengthy and inflexible processes - too many "authority stops" and "decision points";
- limited requirement for public participation;
- no supporting strategic planning tools;
- having weak enforcement measures;
- concerns that EIAs are cumbersome - no quick processing of applications;
- high administrative load on officials;

- not always ensuring that all the necessary information for decision making was submitted;
- causing unnecessary delays in development and
- focusing on the type and scale of activities - not the receiving environment

Due to the difficulties experienced under this Act, the EIA regulations were amended and promulgated under a new Act known as the National Environmental Management Act (NEMA), Act 107 of 1998.

1.2.3 National Environmental Management Act (NEMA) No 107 of 1998

Development must be socially, environmentally and economically sustainable (NEMA Principle (3), therefore, for development to be sustainable, it requires consideration of many factors including that the negative impact on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied (NEMA Principle (4) (a) (viii)). Based on this Act, EIA is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning, implementation and management of all developments. It is intended to guide, rather than impede the development process by providing an approach to gathering and analysing information, and ensuring that it can be easily understood by all interested and affected parties in the development (Van der Linde, 2006).

In Chapter 5, headed "Integrated Environmental Management", the general objective is stated as "to identify, predict, evaluate the potential impact on the environment, social economic and cultural heritage, the risks, consequences and alternatives and options for mitigation activities" (Van der Linde, 2006 Section 23(b)). This is done with a view to minimizing negative impacts and maximizing positive impacts and promoting compliance with the principles of environmental management (S22, (2) (b)).

Regulation 387 provides for listed activities which refer to the activities identified in terms of section 24(2)(a) and (d) of the Act, which may not commence without environmental authorization from the competent authority and in respect of which the investigation, assessment and communication of potential impacts of activities must follow the procedure as described in regulations 27 to 36 of the EIA Regulations, 2006, promulgated in terms of section 24(5) of the Act (Republic of South Africa, 2006). The following are the key role players within the process:

(a) Interested and Affected Parties

Public participation in the EIA process is mandatory. Interested and affected parties (I&APs) must be identified, informed and consulted about the proposed development. Their knowledge should contribute to the identification and evaluation of impacts and alternatives. Their involvement and collaboration during the EIA process is a step towards project sustainability. I&APs play a significant role in all the stages of the process.

(b) The Competent Authority

In respect of a listed activity or specified activity, the competent authority means the organ of state charged by the NEMA (Act 107 of 1998) with evaluating the EIA report of an activity and the granting or refusing of an environmental authorisation based on environmental grounds.

The regulations clearly stipulate that a competent authority decides the application for environmental authorization. The environmental departments of the various provincial governments are responsible for evaluating applications that have been submitted in terms of the EIA regulations. In the Western Cape province the application is submitted to the DEA&DP. But, if an application is for a project which has national significance, it is sent to the DEAT and decided by the Minister as competent authority. However, the Minister can delegate the power to decide on an application to the provincial authority.

The competent authority may assist the Environmental Assessment Practitioners (EAPs) by giving them access to any guidelines and information on practices that have been developed or to any other information relevant to the application; or advise them (in writing or by discussions) of the nature and extent of any of the processes that must be followed in order to comply with the Act and these Regulations (Republic of South Africa, 1998).

The written decision known as a Record of Decision (RoD) under ECA 1997 EIA Regulations is no longer called this but an environmental authorization in NEMA 2006. This is a legal document setting out the conditions of the authorization and the actions required to protect human health and the environment. Any affected party may appeal against the decision contained in an environmental authorization. Appeals must be lodged with the provincial Minister, who considers appeals in terms of the relevant provisions of NEMA and the Environmental Regulations (Western Cape Department of Environmental Affairs and Development Planning, 2006).

(c) The Environment Assessment Practitioner

This is the person who is appointed by the proponent at own cost to manage the application for environmental authorisation. The EAP must be independent and have expertise in conducting environmental assessments including knowledge of the act, regulations and any guidelines that have relevance to the proposed activity (Reg18 (a) (b)).

Moreover, the EAP, must perform the work in an objective manner without favouring the proponent and must disclose to the proponent and competent authority all material information that may have the potential of influencing any decision or objectivity of any report or plan (Reg 18 (c)-(f)).

According to these Regulations, all the applications for environmental authorization must be made in an official application form. There has to be a written consent from the owner in submitting the application if the applicant is not the owner of the land.

1.3 Administrative aspects of EIA in Western Cape Province

1.3.1 EIA administrative regions

In the Western Cape, the Directorate responsible for EIAs is Integrated Environmental Management (Region A and Region B). Each region is further subdivided into smaller regions.

Region A
Consists of the following: George Boland; Eden and Central Karoo; Breede River/Winelands; City of Cape Town; Tygerberg and Oosternberg.

Region B
Consist of Overberg, City of Cape Town; Helderberg; South Peninsula, West Coast, and Blaauwberg

1.3.2. Responsibilities of the Department of Environmental Affairs and Development Planning

According to the Western Cape Department of Environmental Affairs and Development Planning (2006), their responsibilities as a decision making authority are the following, to:

- consider all applications received bearing in mind its mandate of sustainable development
- grant or refuse an environmental authorisation based on criteria from NEMA or NEMA EIA regulations,
- take steps to enter into a written agreement with another authority to avoid duplication if an application requiring an environmental authorisation in terms of the NEMA EIA Regulations also requires that an application be made in terms of other legislation (for example, Land Use Planning Ordinance) that require substantially similar information or procedures
- strive to meet timeframes as laid out in the NEMA EIA Regulations
- ensure that, once an authorisation is granted, it must contain all relevant information specifying the conditions and other details

- provide reasons if an environmental authorisation is refused
- withdraw or amend any environmental authorisation, if necessary
- investigate compliance should the authority suspect that the applicant is not complying with the conditions stipulated in the environmental authorisation
- assist the people who need to appeal a decision or lodge an objection against the application.

1.3.3 Application procedure and time-frame

Three types of applications are highlighted within the NEMA EIA regulations (Western Cape Department of Environmental Affairs and Development Planning, 2006). These are:

- Application for environmental authorisation for which either a Basic; Assessment or Scoping and EIA process must be followed;
- Application for exemption from certain provisions of the regulations and
- Applications for amendment of an environmental authorisation

There are activities that are subjected to Scoping and EIA, and these are activities associated with high levels of pollution, waste or environmental degradation, activities nature and extent are likely to have significant impacts, impacts are not easily recognisable and they are higher risk activities (Western Cape Department of Environmental Affairs and Development Planning, 2006). The following diagram (2) summarizes the scoping and EIA procedure under NEMA, 1998 (Act No. 107 of 1998).

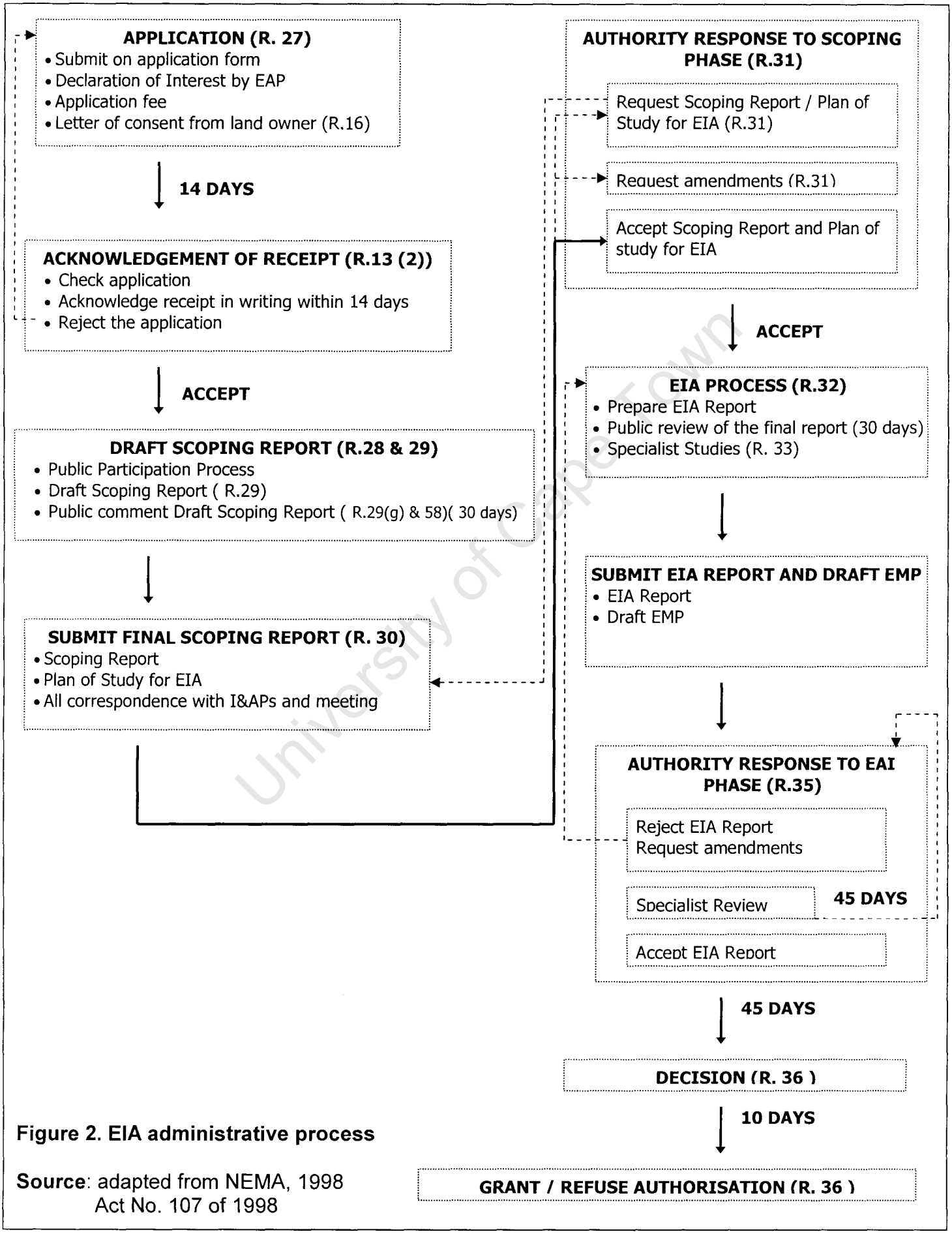

Figure 2. EIA administrative process

Source: adapted from NEMA, 1998 Act No. 107 of 1998

related cases and personal fields of expertise are also taken into account (Western Cape province, 2008).

1.3.4 EIA personnel structure and role

EIA in South Africa is conducted within the Department of Environmental Affairs and Tourism. In terms of the personnel structure, at the top is the Minister of Environmental Affairs and Tourism. In this case, the Minister plays an important role of creating a supporting environment that enhances the ability of both the public and private sector to sustain and effectively manage the natural environment alongside responsible tourism development so as to contribute to socio-economic growth that will benefit all the people of South Africa. He/she is rarely involved in decision making for projects. He/she solely gets involved when there are appeals for large and controversial projects. Here he/she is able to exercise his discretion either in support for such a project or against and his/her decision is final.

In the Western Cape provincial Department of Environmental Affairs and Development Planning, the Head of Department (HOD) is in charge of the EIA section. The HOD's duty in EIA is to review and ensure Environmental Impact Reports (EIR) meet all the requirements and conditions as stipulated in the NEMA regulations. In case the EIR does not contain all the necessary requirements, the HOD refers it back to junior staff, i.e., an environmental officer. In brief, the head of department's role is quality assurance based on the EIR and decision making. If a report is judged satisfactory, the HOD can sign it in 30 days.

Below the head of the department is the deputy director, and below the deputy director there is assistant director. Their duties relate to quality assurance through scrutinizing the work of the environmental officers. There is a principal environmental officer who is followed by the environmental officers.
The environmental officer is at the lowest rank. This is the person who actively interacts with the EIA applicants, consultants and other stakeholders. All the

EIA applications and other related documents are received by the environmental officer. These include basic assessment reports, scoping reports, EIA reports, exemption requests and appeals against decisions. The environmental officer primarily deals with acknowledgement of these applications, requests for amendments and corrections. The officer then assesses all applications through checking them against the NEMA regulations, other requirements and conditions as may be deemed necessary by the competent authority. Peer review is also done, where other environmental officers of equal rank are afforded an opportunity to peer review an application for quality assurance. This is done to ensure objectivity and correcting mistakes the other officer might have committed.

Applications that meet the requirement of the Regulations are signed by the environmental officer's seniors who are mentioned above, including assistant director/supervisors, deputy director and the HOD.

There are internal deadlines within which all the personnel (from the environmental officers to the HOD) involved have to operate. However, it should be emphasized that these are just deadlines that the personnel strive to achieve on their duties.

1.3.5 Number of applications received per region

There is no precise number of applications received every month. The environmental officer estimated that applications received on monthly basis fluctuate around 30 per region (Kula, 2008, pers.comm.).

1.4 Conclusion

In the Western Cape, it is clear that there is a dedicated institutional arrangement for EIA process. Although DEA&DP is experiencing challenges of staff turnover after gaining EIA-related skills and moving to better paying jobs elsewhere, the objective of the department remains to promote sustainable development and transparency in environmental decisions.

The performance of this institution to promote EIA effectiveness may be judged, in part, on the findings of the research on case studies that forms the individual dissertation to which this appendix is attached. The findings also describe the extent to which co-operation and coordination among relevant organs of the provincial government are ensured.

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